MEASURING PERFORMANCE OF BANK OF AGRICULTURAL AND AGRICULTURAL COOPERATIVES (BAAC), THAILAND;

RELATIONSHIPS BETWEEN INSTITUTIONAL GOALS AND FUTURE TREND

BY

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Certification

I undersigned, ANUCHACHART EUR-U-SA certify that the contents of this Independent Final Report and original and properly referenced according to the academic practice requirements.

Abstract

This report aims to measure performance of Bank of Agricultural and Agricultural Cooperatives (BAAC) as it is a state-owned enterprise operating in microfinance serving majority of this market. Measurement of performance is based on conceptual framework of "Critical triangle of microfinance". There are 3 main aspects which are outreach, financial sustainability and impact. It is very complicated and requires panel data gathering which takes time in measuring impact and there have been a lot of literatures and studies on that already therefore I chose to focus on outreach and financial sustainability measurement and assessment. Secondary data from annual reports is the main information applying tools of indicators and method of interpretation mainly provided by UNDP and MIX Co-operations and books. As far as data is available I interpreted various outreach indicators in 2 aspects of depth and breadth, financial performance and efficiency were sub set indicators towards financial sustainability and financial sustainability indicators itself were examined. Results founded that "breadth of outreach" indicators have **complimentary relationship** with financial performance and ultimately financial sustainability. However if we look into more details of sub-category of loan outstanding balance by type of clients, it is found that Agricultural Cooperatives' results are stagnant, farmers' associations' results are fluctuating and decreasing as well as government secured loan projects. On the other hand, relationship between depth of outreach and financial performance and ultimately financial sustainability is a **trade-off relationship**. This is contribution of Thailand's case in the existing debate of relationship between outreach and sustainability as goals which are equally important in critical microfinance triangle conceptual framework.

In addition, there are two types of results but BAAC is doing very well in managing credit risk to develop sound financial performance and financial sustainability and at the same time expanding their outreach. However BAAC failed in depth of outreach implying that it is not reaching truly poor farmers and government secured loans are not effective tools to reach truly poor farmers but rather better off farmers as they were not tailored well enough to suit them.

In conclusion, there also was evidence that a number of government secured loan projects were benefitting only to concentrated groups of interests. Moral Hazard in farmer's associations group of clients resulted in fluctuating repayment performance but they are considered poorer than individual farmers and not well managed therefore are seen as unprofitable group of client meaning that they are obviously minority group of clients. BAAC has to work hard to future outreach of marginal farmers not the better off ones and in expansion of depth of outreach concentration and less in breadth of outreach aspect. It is evident that BAAC is not on the edge of paradigm shift or mission drift which is a positive sign for future perspective.

Chapter I

Introduction

1.1 Research background:

Recently, microfinance institutions are being driven away from subsidy and as a result, focus on financial sustainability and efficiency are deemed important. According to Annim (2010) there exists evidence of diminishing loan portfolio quality as outreach increases and this has hampered the financial sustainability and efficiency therefore the investigation of financial performance and efficiency are heightened.

However, with an aim to increase outreach there seem to be some relationship between outreach, financial sustainability and efficiency. There is a challenge to many financial institutions to achieve these 3 pillars at the same time and also Bank of Agricultural and Agricultural Cooperatives of BAAC in Thailand as being a main state owned development bank. To meet the full promise of microfinance- to reduce poverty without ongoing subsidies requires translating high repayment rates into profits. BAAC as a development bank, it has to absorb high risks in terms of government policies therefore high percentage of equity is owned by ministry of finance and it implies supervision under ministry of finance as well.

Thailand remains until present as a developing country with problems of credit access and poverty. Looking back into the history of the financial crisis in 1997, commercial banks have learnt their lessons from the pre-crisis structural weaknesses. After that there have been reforms to recapitalization of nonperforming loans. This in turn increases risk assessment and management activities as commercial banks became reluctant to grant new loans or even to extend outstanding loans [Anuchitworawong, 2007] . It makes it even more difficult in the rural small lending because

development bank in Thailand or BAAC is dependent on Ministry of Finance and Bank of Thailand as central bank in terms of financial support. Crisis in formal sector or private sector in turns put spillover effects the real economy as a whole. According to [Anuchitworawong, 2007], this credit crunch problem in the private sector had consequently put spillover adverse effect on the rural poor, illiquid households and small enterprises on real economy. Rural poverty reduction gained attention and was put in the government policy under 5th National Economic and Social Development plan.

Even though agricultural sector in Thailand contributes up to 11.4% to gross domestic product (GDP) but according to the latest labor force survey in 2007 total labor force is 3.9 million people and 49% were employed in agricultural sector. Previously Thailand was heavily involved in agricultural activities however it began to transit into industrialized economy since 1980. In 1980 70% of labor force was employed in the agricultural sector.

Apparently the main microfinance institution in Thailand as a formal type is Bank of Agricultural and Agricultural cooperatives (BAAC). The focus is that the intervention of government in Thailand is considered exceptionally high. [Anuchitworawong, 2007] claimed that BAAC as an institution remained highly dependent on governmental financial support since it was established until present. BAAC was established in 1966 as a state owned enterprise under Ministry of Finance (MOF). It mainly focused to provide agricultural credit to farm households and agricultural cooperatives. However rural households rely heavily on state welfare and remain not sustainable until present according to [Siamwalla, 1993].

The main aim has been to expand branch network to increase outreach since 1988. According to [Haberberger, 2005], by 2003, more than 5 million farm households were registered as BAAC's direct and indirect clients while 2.7 million of them are active borrowers. This represents about 46% of the total farm households in Thailand. Saving accounts totally almost 9.6 million provide

significant proof that there is a high demand among rural clients for loans and other financial services. The outreach increases rapidly which leads to a question of financial performance and sustainability of the institution.

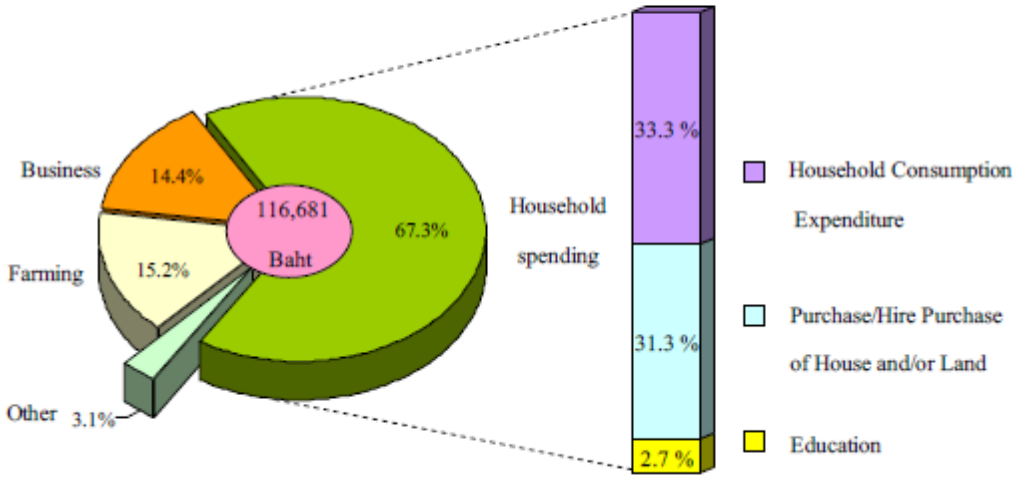
[Haberberger, 2005] claims that "outreach is meaningful only if it remains sustainable". This rapid increase in outreach by BAAC raised an issue in financial sustainability of the institution in the long term in which this paper is intended to provide answer to this question by measuring both outreach and financial sustainability and see relationship between these two main objectives of microfinance institution operation. Critiques will be made as additional knowledge and contribution to the existing debate of relationship between outreach and financial sustainability in the context of BAAC in Thailand.

To alleviate problem of poverty, even though BAAC is concentrating on expanding its outreach but financial sustainability is also an important objective of microfinance for the institution to be able to support the sector in long term. Even outreach is increased up to 92% by BAAC in 2003 but loan sharking and informal debt is very high reported on February 13, 2009 in relation to data obtained from registration with the government's refinancing scheme from December 2009 to January 2010 as in number of debtors and amount of loans in THB divided in regions as per table below.

Figure 1: Number of bebtors and debt registered with government's refinancing scheme 2010

Apparently the concentration of number of the indebted is in northeast region with 526,925 debtors and total debt of approximately 54 billion of Baht. This indicator implies that even though the outreach of main bank in microfinance claimed the successful rate of outreach at 92% in 2003 according to [Haberberger, 2005], there is still demand in borrowing in the rural households concentrated in northeast region of Thailand which indicates the agricultural sector of population involves enormously in informal debt that they lack ability to access formal financing. This evidence supports the requirement of policy in direction of increasing level of access as well as competition in terms of microfinance activities.

According to 2007 Socio-economic household survey conducted by National Statistical Office of Thailand and central bank , it was found that about 10% of the population or 6.5 million people completely lacked access to lending services by any state-owned or private bank.



Source: *National Statistical Office Thailand*, 2007, socio-economic household survey

Figure 2 Percentage of Average Amount of Debt per Households by Borrowing Purposes (2007)

As shown in the above figure, main purpose of borrowing is concentrated on household consumption expenditure as 67.3%. This can be perceived as "high risk" lending as the activities involve in household spending are household consumption expenditure, purchase of house or land and education in percentage of 33.3%, 31.3% and 2.7% respectively. Pattern is clear that most of the loan has intention only for running day to day activities which in turn implies low level of income generating activities. This can be a factor why it is extremely difficult to increase outreach and competition of commercial banks in microfinance activities as they fear of deteriorating financial performance and sustainability due to a rise in high risk in their loan portfolio and interest rate ceiling of 28% imposed by BOT at no collateral loans in microfinance activities.

As it is difficult to get commercial banks involved in this sector and agricultural institutions are still weak, BAAC's financial performance and sustainability is crucial to be maintained while increasing outreach and carrying out implementation of governmental policies.

[Anuchitworawong, 2007] indicates in TDRI Quarterly Review that government should be careful

with financial support because he found evidence that it happened that farmers who took on multiple obligations by borrowing from the village fund inevitably had their debt suspended for two years and they experienced a shape decline in their real income but an increase in their expenditures which might be due to their careless spending behavior. In this light, government should be careful in ways to increase outreach and competitiveness of microfinance activities such as not to give too much subsidy to state owned enterprise such as BAAC and other commercial banks.

In conclusion, microfinance institution structure in Thailand is concentrated as BAAC being State owned enterprise, BAAC gained huge financial support from Bank of Thailand (BOT) and Ministry of Finance (MOF) and competition in microfinance activities has remained low until recently that BOT and MOF has issued new financial master plan to be effective from 2010 throughout 2014 emphasizing in increasing outreach as well as competitiveness by means of involving commercial banks in microfinance business. Receiving huge support from public sector gave BAAC incentives to slack as competition has been almost absence, risk is considered high at the same time because main BAAC customers are low income rural households who do not possess reasonable income and consumption pattern is risky therefore measuring financial performance and possibility for long tern sustainability are deemed necessary even in times of reduced financial support from government. There is possibility for moral hazard in lending operations and loan portfolio management. In details, BAAC realizes that even though it increases outreach as first priority and moral hazard in lending out without proper screening therefore quality of loan portfolio can deteriorate.

Government policies will be looked at as well as amount of lending schemes into BAAC sources of funds to analyze dependence on government support and measure level of sustainability.

1.2 Research Objective

Main objective is to measure financial performance of state owned institution which is Bank of Agricultural and Agricultural Cooperatives (BAAC) as main microfinance player (considered monopoly in microfinance market) in terms of outreach and financial performance as well as long term financial sustainability.

The second objective is to determine relationship between outreach and financial performance of BAAC

The Third objective is to make critiques to the existing debate of the relationship whether it can be complimentary or trade off at times. Different measurements of existing secondary resources and literatures will be applied.

1.3 Research statements:

With government subsidy and policy to increase access of microfinance to rural households mostly working in agricultural sector, question is raised to what extent that financial performance can be maintained and long term sustainability can be achieved when access is increased to a pool of high risk low income households. The type of institution of BAAC being almost monopoly in microfinance market being state owned enterprise receiving a lot of subsidy. This drives even more doubts to measure financial performance in relation to outreach and ultimately long term sustainability. If the institution is deemed self-sustainable and in good shape of financial performance, implies that commercial banks can also see microfinance market to be explore as it can be successful and self sustainable therefore competitiveness can be achieved which will ultimately increase efficiency and outreach. Here regulatory institutions such as BOT and MOT may issue policies that may facilitate commercial banks to be involved in microfinance. This paper will explore different angles from cases in the past from other countries as lessons and experiences to see how regulating agents in Thailand can make the change happen. All this is to solve informal debt

problem and ultimately poverty alleviation.

1.4 Research significance:

Most literatures in the last 2 decades on microfinance in Thailand were conducted on impact of microfinance in individual and village level. However at institutional level, research in this level is still limited. In addition, main aim of microfinance is to increase outreach but at the same time as more risk is put in the portfolio it is important to maintain as well whether financial performance of BAAC can be maintained. Critiques will add to the knowledge in the relationship of critical triangle of microfinance framework as existing debate. This research aims to see the trend in the past seeing relationship between outreach and financial sustainability of BAAC and ultimately determine whether throughout the years (2004-2009) the institution has been operating in a sustainable manner given it is a state owned enterprise receiving lot of funding by government leading to slack in efficiency and moral hazard in portfolio management as outreach continues to increase and support is being given by public sector (BOT and MOF).

1.5 Research Questions

1) How is BAAC performing as a state owned enterprise in microfinance market by measuring outreach level and financial performance in various methods?
2) What is trend and relationship between outreach and financial performance of BAAC from 2004-2009? How does moral hazard affect BAAC as a state-owned enterprise?
3) Does government subsidy and government secured loan funding of BAAC being a state owned enterprise affect financial performance of BAAC due to slack in efficiency and moral hazard of clients taking these types of loans?

1.6 Hypothesis

1) Outreach and financial sustainability are complimentary to each other as goals to microfinance institutions therefore can be developed concurrently
2) BAAC as state-owned enterprise, even with intervention by government policies can expand in terms of outreach and improve financial sustainability operating in profitable manner as well as BAAC is not behaving with moral hazards reducing efficiency in operation and staff in screening, monitoring and managing quality of loan portfolio
3) Government policies implementing through BAAC are seasonal, temporary and concentrated to middle range farmers and not truly benefiting the very poor or marginal farmers

1.7 Methodology

Many definitions of microfinance will be explored through chapter 3 as well as methods in measuring outreach and financial sustainability previously reviewed in chapter 2 to categorize outreach and sustainability in different angles. In addition, United Nations Development Program (UNDP) has generated microfinance indicators as well as benchmark indicators proposed by microfinance information exchange Incorporation (MIX) published in "The micro banking bulletin" which I shall expand more in the methodology section to measure outreach and financial performance of microfinance institutions. This is main measuring method I shall use on this research.

Secondary data is obtained from annual reports of BAAC from 2004-2009 to use for further analysis according to outreach and financial sustainability indicator.

Graphical illustrations will be used to analyze and interpret if relationship exists between outreach and financial sustainability of different measuring indicators.

1.8 Structure of report

The report is organized in 5 chapters. Chapter 1 is devoted to introduction of the research, research background, research objectives, research questions and research significance. the next chapter (chapter 2) will explore conceptual framework of critical microfinance triangle with three main pillars to measure performance of microfinance, microfinance operating structure in Thailand, literature reviews on possibility of moral hazards effecting quality of loan portfolio as BAAC is main player as development bank receiving huge financial support from governmental body, several methods used to measure outreach, financial performance and sustainability and long term prospective of the institution. Chapter 3 would elaborate on the methodology and methods of calculations chosen in this research. Chapter 4 would seek to analyze results from chapter 3 to see what contributed to success or failure in case of BAAC. Chapter 5 would conclude and recommend policy oriented solutions and appropriate actions and deliver policy recommendations towards efficient operation of microfinance institutions (MFIs) and commercial banks which can be implemented by governmental body so called BOT and MOF. Also further studies and limitations of research will conclude this report.

CHAPTER II

Conceptual framework and Literature review

Firstly, definitions are to be clearly defined especially key words. In “2007 mixed Asia 100” ranking of microfinance institutions in cooperation of Asian Development Bank (ADB) and Microfinance Information Exchange (MIX) by [Gaul, Scott, al., 2008]. Microfinance services are defined as follows. As opposed to financial services in general microfinance services are small scale retail financial services, small in relation to the average national per capita income. Specifically, the average balance of microfinance services is no greater than 250% of the average income per person (GNI per capita). The institutions that provide microfinance services are as diverse as the services themselves and may include wholly dedicated institutions as well as subsidiary or service companies of full-scale financial institutions.

In the case of Thailand according to Financial Sector Master plan or FSMP II in the section of microfinance guidelines for commercial banks, microfinance in Thailand is defined as “lending up to 200,000 baht per client to spur entrepreneurship with no collateral, at an interest ceiling of 28%”. In Thailand, as a developing economy poverty remains to be alleviated and this is impossible to be achieved without access to credit.

Gap between demand and supply of credit in the formal financial institutions has been challenging as mentioned in [Von Pischke, J D, 1991].

In fact, the gap is not mainly from shortage of lone-able fund but commercial banks or formal institutions are reluctant to lend to the poor as lending to the poor involves high transaction cost and risks associated in information asymmetries and moral hazards [Stiglitz, 1981]. Microfinance exists for that reason and it would increase financial performance through below 3 objectives of

measurement as whether competition in the microfinance market exists. The three objectives are elaborated below in Outreach and Financial performance would be defined and easier to be understood after an introduction of a concept of "The Critical Microfinance Triangle". This concept is taken from [Meyer, Richard L.;, 2002].

2.1 Conceptual Framework- Critical Triangle of microfinance

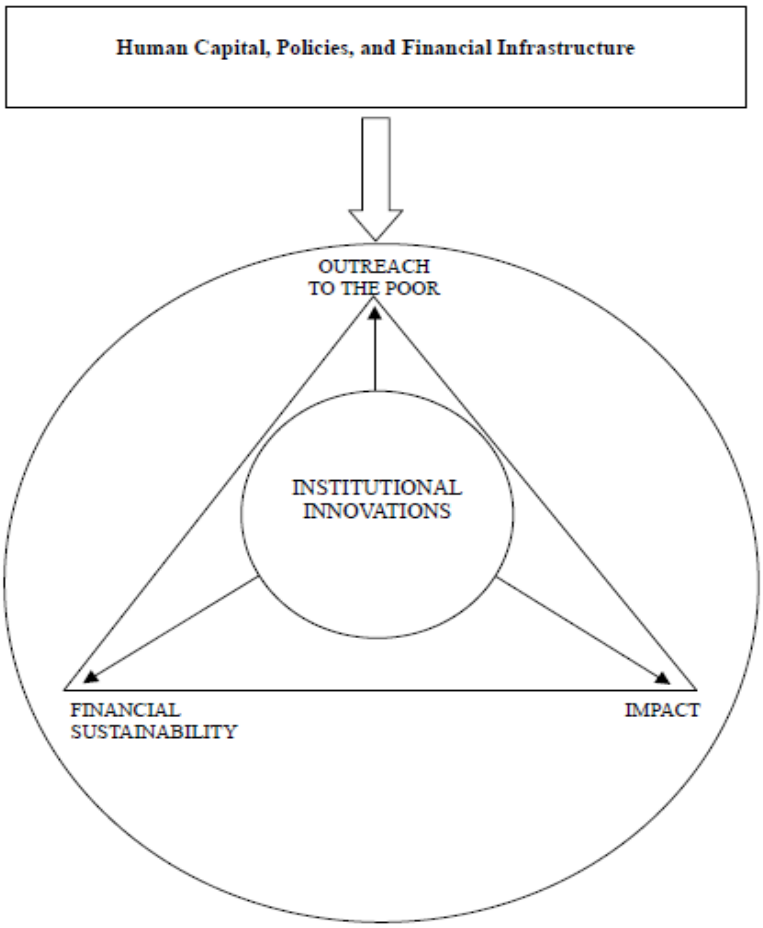


Figure 3 Critical Triangle of Microfinance, Source: [Zeller Meyer, 2002]

Taken from [Meyer, Richard L.;, 2002] citing from [Zeller Meyer, 2002], at the top of the chain, the macro environments of microfinance which impose direct and indirect effects on microfinance performance are outlined. These environments include human and social capital possessed by the clients of microfinance or the poor, economic policies of the country and lastly quality of the

financial infrastructure that supports financial transactions. In the middle of the triangle "institutional innovations" are presented in the circle. Institutional innovations are factors such as technology, policies, organization and management structure. These institutional innovations affect performance in each objective of microfinance institutions. Most importantly, the defined 3 main objectives of microfinance which are represented at the end of each angle of the triangle which are namely outreach to the poor, financial sustainability and impact. Each objective has its own ways of measurement. Improvements of the environment make it easier for the microfinance institutions to reach the three objectives. From this point I would like to look at each objective on what it is and how it can be measured.

2.2 Outreach

I would like to begin with *outreach.* When we first think of outreach the first thing that might come to mind is number of clients served. However [Meyer, Richard L.;, 2002] noted that outreach is multidimensional concept. There are 4 sub categories in outreach which are

1) Number of clients served

   This number basically indicates numbers of clients now served that were previously denied access to formal financial services. Reasons could be lack of collateral required, perceived as too risky to serve and in turn impose high transaction costs on financial institutions because of their small size of their financial activities and transactions.

2) Number of women served

   This is included in the criterion for a reason which is in usual cases women are considered facing greater problems than men in accessing financial services.

3) Depth of outreach

How well microfinance institutions can reach the very poor. This is very important factor in Thailand's case because it is mentioned in [Anuchitworawong, 2007] that it is apparent that the vast majority of the poor still could not enjoy the benefits offered by the government while the proportion of the non-poor people who are cunning in participating in these programs increased over time. This means that the institutions in Thailand remain incapable of reaching the truly poor.

4) Variety of financial services

   If efficient and secure savings, insurance, remittance transfer and other services are provided in addition to the loans that are the predominant concern of policy makers are added to the products offered by microfinance institutions as the poor demand, better welfare would be achieved.

In addition, [Woller Schreiner, 2004] classified outreach according to benefit- cost framework into 6 dimensions as per below. The attention should also be paid to that this is a measurement of net social return which will depend on the interaction between all six dimensions of outreach. No single dimension can be left out.

1) Worth of Outreach: The value clients place on products and services
2) Cost of Outreach: The sum of price costs and transaction costs to clients
3) Scope of Outreach: The number of types of products and services offered to clients
4) Length of Outreach: The time frame of the supply of products and services
5) Depth of Outreach: The value that society attaches to a net gain of a given client
6) Breadth of Outreach: The number of clients reached

All these can be achieved in 3 ways outlined as follows

1) An MFI adopts a poverty targeting tool that increases administrative costs. In this attempt some of the non poor clients are excluded therefore breadth of outreach decreases but depth of outreach increases. MFIs have to come up with products that are responsive to client needs then length, worth and scope of outreach will be achieved.
2) An MFI charges a high rate of interest that covers operational, funding and imputed funding costs
3) An MFI offers savings with flexible terms. Scope and worth of outreach increase as well as breadth and depth. People who are too poor to save can save with this offer. Length of outreach increases because savings are a more stable source of long term funds than donations. Relative to donated funds cost of outreach increases but relative to commercially borrowed funds cost of outreach falls.

In sum, according to my interpretation and combinations of indicators, number of women served and women served as well as deposits in perception of [Meyer, Richard L.;, 2002] are referred to as Breadth of outreach in [Woller Schreiner, 2004]. Also variety of products offered in [Meyer, Richard L.;, 2002] is referred to as scope of outreach in [Woller Schreiner, 2004]. Lastly, the same indicator suggested by both authors [Meyer, Richard L.;, 2002] and [Woller Schreiner, 2004] is referred to as depth of outreach.

2.3 Financial Sustainability

Next the second element of the critical triangle which is **financial sustainability** is discussed.

Navajas et al. (2000) claimed that the poor required financial sustainable institutions which can provide them long term financial assistance or length of outreach in view of [Woller Schreiner, 2004]. Microfinance institutions are to support the poor in long run as if it only supports the poor in short run it will hamper the social welfare of the society in the long run. In the case that when the

client of the microfinance institution knows that he/she will not receive additional loan in the future they would have no incentive to borrowers to repay their loan.

It is difficult for microfinance institutions to maintain both outreach and financial sustainability. [Meyer, Richard L.;, 2002] claimed that non-financial sustainability arises due to low repayment rate or un-materialized of funds promised by donors or governments.

Financial sustainability can be assessed in two ways.

1) **Operational self-sustainability**

   This is when operating income in sufficient enough to cover operational costs like salaries, supplies, loan losses and other administrative costs.

2) **Financial self-sustainability**

   This is when microfinance institutions can cover costs of funds and other forms of subsidies received when they are value at market prices

Khandker et al. (1998) added one more indicator to the measurement of financial sustainability which is loan repayment (or default rate). This is due to low default rate implies good relationship between clients and microfinance institutions as well as ability to pay of target clients and thus help realize future lending.

Moreover, another way to measure financial self-sufficiency of a microfinance institution is by calculating Subsidy Dependence Index. It is mentioned in Yaron(1992) that this is an accounting technique used to calculate the ratio between subsidies received by a financial institution and the revenue received from loans. It is basically a percentage change in the yield on loans required to make the subsidy zero. Meyer (2002) cited from Muraki, Webster and Yaron (1998) stated that “the

SDI for BAAC in Thailand in 1995 was calculated at 35.4 percent indicating that it would have had to increase its portfolio yield from 11.0 to 14.89 to be free of subsidies in that year".

United Nations Development Program (UNDP) has come up with a guideline to measure core performance indicators to measure microfinance. The note is written for staff who design or monitor projects that fund microfinance institutions. **There are 5 core areas in which outreach and financial sustainability are included**. 5 core areas are as follows. More will be elaborated in chapter 3 as methodology and formulas.

1) Outreach – how many clients being served?
2) Client poverty level – how poor are the clients?
3) Collection performance – how well is the MFI collecting its loans?
4) Financial sustainability – is the MFI profitable enough to maintain and expand its services without continued injections of subsidized funds?
5) Efficiency – how well does the MFI control its administrative costs?

Wisniwski (1998) studied about savings in the context of microfinance from 6 institutions and BAAC was included in that study. It is stated that from an institutional perspective, mobilizing small and micro savings can help microfinance institutions to attain self-sustainability with 3 reasons below

1) Deposits can be attractive source of funds as their financial costs are normally lower than funds from the interbank market
2) Withdrawals from small amounts on deposit do not expose the financial institution to liquidity risks such as larger savings would do
3) Small savings are also a more stable funding source than donor funds or rediscount lines from the central banks. The former are generally independent from political interests. Small

depositors, in general, do not intervene in day-to-day business as most governments and donors do if they provide funds. A similar risk of dependence might also exist with larger savers such as a better-off people and institutional savers.

BAAC is mentioned and evaluated in above literature in several aspects such as loan management, cost management, liquidity management, management capabilities, capability of developing savings products and technologies. The essence will be discussed deliberately in chapter 4 in analyzing section.

According to Focus series No.5 (1996), MFIs can increase financial sustainability through cost-recovery interest rates, savings and insurance facilities, intensive collection of loans and incentives to repay. In addition MFIs need to tailor financial product to requirements of the poor such as savings facilities and small emergency loans for consumption. MFIs could charge higher interest rates on smaller loans, thus the incentive system that systematically works against relatively high-cost smaller loans.

Referring to Johnson and Rogaly (2002) in the book called “microfinance and poverty reduction, financial sustainability can be categorized in 3 levels

Level 1 Subsidy dependent

The costs of the organization are funded through grants and subsidies from government or donors

Level 2 Operational efficiency

The non-financial costs of operation such as salaries and administrative costs are covered out of program revenues (interest on loans and fees)

Level 3 Fully self-sufficient or profitable

The institution is generating positive (inflation adjusted) returns on assets. The financial costs of operation are also covered: capital for on-lending is raised through commercial loans, deposits and income is enough to cover the costs of these loans.

The last aspect of the critical triangle is impact. This is the area where a lot of studies and researches have been focused on. However there exist methodological difficulties and high costs involved in conducting robust studies. Some argued that it is waste of resources that if clients continue to use the services it means that they must value the benefits received more than costs of obtaining them.

2.4 Previous literatures on relationships between outreach and sustainability

There are also a number of literatures putting argument on relationship between outreach and financial sustainability. According to [Woller Schreiner, 2004], pointed the unresolved issue in the microfinance industry which is the nature of relationship between social return and financial return. There exists a common belief that there is a trade off relationship between depth of outreach and sustainability as greater depth of outreach implies lower institutional sustainability, and great institutional sustainability implies lower depth of outreach. There are more costs and greater risks involved in lending to poor people especially those living in rural areas. “Relative to the more well-off, lending to the very poor entails, all else equal, higher per-unit administrative costs, lower per unit revenues and greater risks”. Therefore it can be concluded that common ground of microfinance has dichotomous relationship.

Christen et al. (1995) cited in Meyer (2002) that outreach and financial sustainability are *complimentary* because as number of clients increases, microfinance institutions gain economies of scale and hence reduce costs which help them to be financial sustainable.

However, Hulme and Mosely (1996) argued that there is *inverse relationship*. The reason is because higher outreach means higher transaction cost in order to get information about creditworthiness of clients and thus make microfinance institutions financially unsustainable.

Conning (1999); Paxton and Cuevas (2002) and Lapenu and Zeller (2002) were cited in Hermes et. al. (2009) that making very small loans involves high transaction costs per loan, in terms of screening, monitoring and administration costs therefore reaching the poor and providing credits are perceived very costly. Several authors mentioned above claimed that therefore argue that the unit transaction costs for small loans to the poor are high as compared to unit costs of larger loans. Thus, there may exist a trade-off relationship between financial sustainability and outreach, implying that the shifting focus towards increasing sustainability and efficiency reduces the scope for more traditional aim of many microfinance institutions which is lending to the poor.

In microfinance bulletin issue no.2 in July 1998, relationship between outreach and responsibility is also elaborated as "*complimentary*". It is mentioned that these two are two sides of a whole, each incomplete without the other. Also the authors claimed that sustainability serves outreach. Only by achieving a high degree of sustainability have microfinance programs gained access to the funding they need over time to serve significant numbers of their poverty level clients.

Referring to Johnson and Rogaly (2002) in the book called "microfinance and poverty reduction", as economies of scale are achieved costs can be reduced per transaction. However problem can also arise as some organizations find that their users who do well need larger loans over time. Users can be graduating out of the target group. Although costs per loan fall when loan sizes increase, the disadvantage is that better-off users are likely to be attracted to the services. It is also mentioned that access to donor money can lead to a lack of financial discipline on the part of the institution which may undermine the objective of building up such institutions to survive in the longer term.

Moreover, views on involvement of commercial banks and private sector are also stated in the microfinance bulletin issue no.2 in July 1998 as follows. Those that support to trade off sustainability with outreach view that the private sector as the future home of microfinance whereas those that support poverty objective seem vary of allowing that future to be dominated by commercial, for profit operators. They foresee donor and government involvement in microfinance for an extended period of time.

However, the essence is that donors and governments are prone to fads and are unlikely to continue subsidizing microfinance indefinitely and are not generous enough to do so in a major scale. The only way to ensure access by the poor to financial services is to ensure that the private sector finds it profitable to provide such services. Only private sector will stick with a moneymaking activity even if it is not in fashion.

Cull et al. (2007) conducted a comprehensive study with extensive data set of 124 MFIs in 49 countries and suggested that MFIs that focus on providing loans to individuals perform better in terms of profitability. Yet, the fraction of poor borrowers and female borrowers in the loan portfolio of these MFIs is lower than for MFIs that focus on lending to groups. However, Cull et al. (2007) found evidence for a trade-off relationship between efficiency and outreach.

Olivares-Polanco (2005) used data for 18 MFIs in Lain America to investigate determinants of outreach in terms of loan sizes. The study found existence of trade-off relationship between sustainability and outreach.

Makame and Murinde (2006) invested the relationship between outreach and sustainability in East African countries using different measures of the depth (loan size) and breath (number of borrowers) of outreach. In this study, the evidence of trade-off relationship between sustainability and outreach was found.

According to FSMSII, competition in microfinance sector is necessary. However McIntosh et al. (2005) claimed that wealthier borrowers are likely to benefit from increasing competition among microfinance institutions therefore welfare of poorer borrowers would be lower. In conclusion, outreach is hampered as competition increases and putting pressure on microfinance institutions.

Microfinance banking bulletin (1998) by Economics institute in Colorado suggested that there are two camps which one emphasizes on poverty whereas the other emphasizes on sustainability as a goal. The Maximizing outreach study found that the most financially viable programs differed in their willingness to set interest rates at levels that would fully recover costs. Here we can see that interest rate is the key to sustainability. However in those institutions that are subsidy dependent they can admit lower level of interest rate and lend at the subsidized rates. Ultimately, the study claimed that the debate whether to choose poverty or sustainability is about whether to subsidize interest rates. The sustainability camp views the private sector as a future home of microfinance while in the poverty camp wary of allowing the future to be dominated by profit operators. They foresee donor and government involvement in microfinance for an extended period of time. Some studied which type of lending is more profitable and whether it can reach the very poor as main clients.

2.5 Types of institutions in microfinance

I would like to review types of institutions to suggest that higher competition can be achieved to reduce moral hazard in portfolio management and to review possibility of other types of institutions as well as advantages and disadvantages of institutions involving in microfinance. According to Zeller and Johannsen (2006), MFIs are distinguished by two criteria: legal status and lending technology.

According to Fitchett(1999), as far as the nature of BAAC is a state-owned enterprise is concerned, a couple of factors may be important to potential clients as advantages. First is that clients perceive state owned enterprise as safer than private institutions in terms of depositors' funds are implicitly guaranteed. Second is that there is lower implicit transaction costs through ease of access to financial services.

Advantages of informal systems are client proximity, flexibility, social capital and reaching poorer clients where as advantages of formal systems are risk pooling, term transformation, provision of long term investment loans, financial intermediation across regions and sectors.

1) Savings and credit cooperatives are owned and controlled by their members and function according to democratic rules. The member based governance structure also feature equity concerns for weaker members. The comparative advantages of credit unions lie in their ability to service large number of depositors in both urban and rural areas reaching breadth of outreach.
2) Village banks are semi formal, member based institutions. Members can decide on interest rates therefore high interest rates both on loans and saving deposits are higher compared to going rates in the commercial banking sector. Advantages lie in depth of outreach and impact on poverty reduction as well as complementary services such as education or business training. The main form of credit guarantee relies on social pressure.
3) Micro-banks operate with focus on reaching financial sustainability as well as wish to serve small scale entrepreneurs and individuals sometimes require collateral but can be substituted. They offer high loan sizes therefore unlikely to reach the poor.

2.6 Risk Management in rural financial institutions

According to Yaron (1997), there are three types of risks that rural financial institutions must confront in their operations.

- **Subsidy risk**
  - As subsidy dependence threatens the longevity of an institution when such subsidies may be withdrawn
- **Covariant risks**
  - Owing to the concentration of the lending portfolio in rural and agricultural activities that are seasonal in nature and subject to covariant shocks
- **Default risk**
  - To overcome this risk requires careful selection and screening of clients, enforcement of credit discipline, monitoring of loan performance and adequate provisioning of doubtful debt

Moreover, in aspect of risks in microfinance Chatterjee and Sarangi(2006) reviewed the book titled "The Economics of Microfinance" by Aghion and Mordoch that these types of risks above can be avoided by joint liability or group lending. This type of lending are practiced in credit cooperatives are more flexible in arranging and mobilizing local resources which demonstrates the benefits of peer monitoring. High repayment of group lending programs may be socially optimal and may be the result of excessive peer monitoring. The authors claimed how imposing joint liability lending can alleviate adverse selection and moral hazard problems. BAAC also adopted this group lending mechanism in late 1980s and found it successful in repayment rates became higher.

In conclusion outreach, efficiency and financial sustainability are defined according to previous literatures. More importantly, the main conceptual framework of this report is also explained and

referred to as “Triangle of microfinance” which 3 main goals of microfinance are linked together and explained that it can be reached as a result of development in human capital, politics and financial infrastructure as well as institutional innovations can be beneficial to all the three goals.

In addition, outreach can be looked at from differ angles from different concepts. At the end of chapter 2, I put effort into group and differentiate relevant concepts and ideas of mainly different angles of outreach as well as explanation of sustainability concepts are gathered together in order to understand and be able to interpret indicators. Levels of dependency on subsidy play a very important role in analyzing degree of financial sustainability of the institution and categorized in 3 levels namely subsidy dependent, operational efficiency and fully self-sufficient or profitable. Efficiency is also interpreted as sub indicators leading to sound financial performance and financial sustainability.

After each key word are defined and indicators suggested by various literatures are examined and categorized, previous works of examining relationships whether it is complimentary or trade-off are listed as many previous works examined relationships in many geographical areas, type of lending, target clients. There can be 2 main camps whereas one camp which is poverty camp strongly suggested that they foresee private sector as a future home of microfinance.

Finally, in relation to literatures on types of institutions and types of risks in microfinance are listed in order to understand further factors contributing to advantages and disadvantages of institutions involved even though in Thailand BAAC is playing a main role as a governmental arm in terms of policy implementation being a state owned enterprise. However, there are much more rooms for other institutions to be involved in the future for a possible structural institutional change. Different types of risks contribute to understanding of risk management that microfinance institutions are required to take notice and manage well in order to achieve outreach and financial sustainability

concurrently. Review of group joint ability lending is claimed to avoid adverse selection and moral hazard problems.

More recent literatures also expanded on studying relationships between capital structure, outreach and sustainability for example, in Bogan (2009) he examined links between capital structure and key measures of microfinance success namely outreach and sustainability using panel data and found notably casual evidence supporting the assertion that an increased use of grants by large microfinance institutions decreases operational self –sufficiency.

Chapter III

Methodology

Firstly, definitions and formulas must be clear in order to be able to measure, understand and interpret both outreach and financial sustainability in context of BAAC.

3.1 Outreach and outreach indicators

Outreach can be perceived as social returns whereas ***financial sustainability*** on the other hand, financial returns. However achieving higher outreach does not imply that poverty is reduced. In order for poverty to reduce other factors namely, macro economics environment factors such as prices of agricultural products domestically and exported prices, suitable weather for production and harvesting, education, training, development of institutions to enhance education level and quality of human resources in institutions. Most importantly outreach must be to the right target group of clients which in this context is rural poor who do not have access to funds in the formal financial system and wanting to borrow in small amounts.

Outreach can be looked at in different angles as mentioned in chapter 2. However, there are outreach indicators according to microfinance information exchange Incorporation (MIX) in benchmark data of microfinance institutions around the globe. However, they did not include BAAC in the panel data and calculation.

Outreach indicators and their definitions are as follows. I shall apply these indicators in measuring trend of outreach from 2004-2009 in BAAC as far as data is available. Moreover, I shall categorize the findings obtained as far as data is available into different angles of outreach namely, depth of outreach, breadth of outreach, scope of outreach, scale of outreach and interpret in order to identify whether relationships among them.

Even though different authors differently define angles of outreach in different ways, similar outreach indicators will be carefully selected, measured and graphically illustrated to see trend in the context of BAAC outreach performance.

Outreach Indicators

Number of Active Borrowers:

Number of borrowers with loans outstanding, adjusted for standardized write offs

Percent of Women Borrowers:

Number of active women borrowers/ number of active borrowers

Number of Loans Outstanding:

Number of loans outstanding, adjusted for standardized write offs

Gross Loan Portfolio:

Gross Loan Portfolio, adjusted for standardized write offs

Average Loan Balance per Borrower: $= \frac{\text{Gross Loan Portfolio}}{\text{Number of active borrowers}}$

This indicator is strongly supported by micro banking bulletin (1998) that there is very less empirical results on poverty level of clients in microfinance programs and research is relying on loan size as the only readily available proxy for client poverty level. This is a very important indicator in terms of depth of outreach

Average Loan Balance per Borrower/ GNI per capita:

= Average Loan Balance per borrower / GNI per capita

Average Outstanding Balance:

= Gross Loan Portfolio/Number of Loans Outstanding

Average Outstanding Balance/ GNI per capita:

= Average Outstanding Balance / GNI per capita

Number of Voluntary Depositors:

= Number of depositors with voluntary deposit and time deposit accounts

Number of Voluntary Deposit Accounts:

= Number of voluntary deposit and time deposit accounts

Voluntary Deposits:

= Total Value of voluntary deposit and time deposit accounts

Average Deposit Account Balance per depositor:

= Voluntary deposits/ Number of voluntary depositors

Average Deposit Account Balance:

= Voluntary depositors/ Number of Voluntary deposit accounts

3.2 Efficiency and efficiency indicators

Annim (2010) defined working definition of ***efficiency in microfinance*** as "using an optimal combination of inputs (staff time, staff number and cost of operation) to respectively disburse and reach the maximum number of loans and clients. This creates a distinction between efficiency and financial sustainability. The author claims that efficiency is a necessary condition for financial sustainability. While the relationship between financial sustainability and targeting poor clients remain crucial to investigate however institutional efficiency has recently come into the spotlight according to Hermes et. al(2008) cited in Annim (2010).

As previously mentioned that efficiency affects ultimate result of financial sustainability, **efficiency indicators** are as follows

Efficiency indicators

Operating expenses to Loan portfolio:

= Operating expenses/ Average Gross Loan Portfolio

Personnel expenses to Loan portfolio or total income:

= Personnel expenses/ Average Gross Loan Portfolio or total income

Average Salary/ GNI per capita:

= Average Personnel Expenses/ GNI per capita

Cost per borrower:

= Operating expenses/Average number of active borrowers

Cost per loan:

= Operating expenses/ Average number of loans

3.3 Financial Performance and financial sustainability indicators

Returns on Assets (ROA)

= (Net Operating Income – Taxes)/ Average Total Assets

Returns on Equity (ROE)

= (Net Operating Income – Taxes)/ Average Total Equity

Net Profit

= Net financial Income – Operating and non operating expenses- Impairment of losses on loans

In addition to indicators of measurement for outreach, efficiency leading to ultimate financial sustainability which are 2 main goals of microfinance institutions, government policies and support, will be taken into analytical consideration as if efficiency or sustainability reduces with moral hazard in clients' repayment rate deteriorates according to perception or lower quality of portfolio management which can be observed by 3 **financial performance indicators** according to Johnson and Rogaly (2002) in the book called "microfinance and poverty reduction".

Repayment rate = $\frac{\text{repayments made}}{\text{repayments due}}$

The on-time repayment rate needs to be calculated regularly in relation to a time period which is normally fiscal year of operation. When monitoring the performance of a scheme it is also important to look at trend of repayment rates as it may fluctuate over the years if borrowers have difficulty in making installments at certain time such as during the dry season before harvests are due.

Arrears rate = $\frac{\text{value of loans outstanding on which repayments are more than 3 months overdue}}{\text{Total value of loan outstanding}}$

This shows the proportion of total loan portfolio which is at risk of turning into default at any given time. Actions need to be taken to prevent moving loans from being in arrears to being in default. Actions can be intensive follow-up on individuals or the withdrawals of future loans. The point at which a loan is defined as being in default will vary. Another word for loans being in default is *"non-performing loans"*.

Operational self-sustainability: This indicator is positive when operating income in sufficient enough to cover operational costs like salaries, supplies, loan losses and other administrative costs.

$$= \frac{\text{Financial revenue}}{(\text{Financial expenses} + \text{Impairment Losses on Loans} + \text{operating expenses})}$$

Financial self-sustainability: This indicator is positive when microfinance institutions can cover costs of funds and other forms of subsidies received when they are value at market prices

$$= \frac{\text{Adjusted Financial revenue}}{\text{Adjusted } (\text{Financial expenses} + \text{Impairment Losses on Loans} + \text{operating expenses})}$$

3.4 Self-sufficiency indicators

In contribution to long term financial sustainability self sufficiency indicators enables us to understand and interpret how independent a microfinance institution is.

1) Sources of fund structure

2) Deposits to loan ratio = $\frac{\text{Amount of Deposits outstanding}}{\text{Amount of loan outstanding}}$

3) Funds borrowed from government agencies as creditors for government policy oriented policies

3.5 Scope in measurement of efficiency sustainability and outreach of MFI institution

In addition to MIX Incorporation benchmark indicators, Annim (2010) suggested that scope efficiency can be measured and separated in input and output based on microfinance objectives and sustainability and outreach.

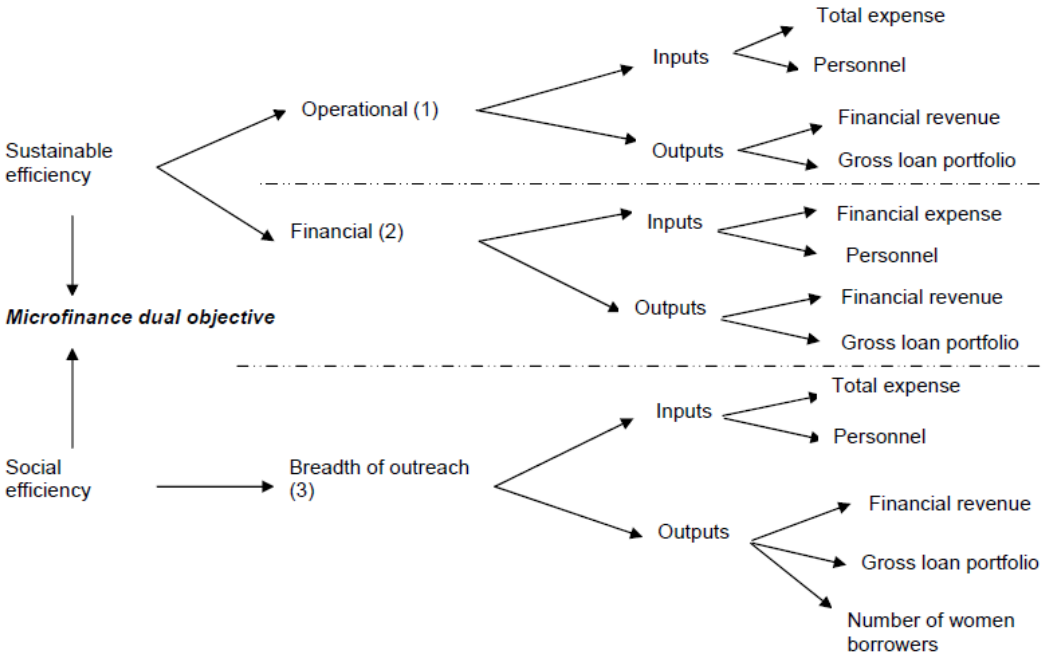


Figure 4: Scope of efficiency measure based on microfinance objectives taken from Annim (2010)

Sustainability

Goals of microfinance institutions	Type of efficiency	Input	Output
			Intermediation/production models
Financial	Technical/ allocative efficiency?	Operating expense	Financial revenue
		Personnel	Gross loan portfolio [I]
		Total assets	
		Total equity	
		Total expense	Financial revenue [I]
Operational	Technical/ allocative efficiency?	Total assets	Gross loan portfolio [I]
		Personnel	
		Total equity	

Figure 5: Scope of MFIs inputs / outputs based on sustainability taken from Annim (2010)

Outreach

Goals of microfinance institutions	Type of efficiency	Input	Output
			Intermediation/production models
Scale[13]	Technical/ allocative efficiency?	Operating/financial expense	Number of active borrowers [P]
			Number of depositors [P*]
Depth[14]	Technical/ allocative efficiency?	Personnel	Average loan size/GNI per capita
		Total assets	
Breadth[15]	Technical/ allocative efficiency?	Total equity	Total number of women borrowers

Figure 6: Scope of MFIs inputs / outputs based on outreach taken from Annim (2010)

For further descriptions, scale, depth and breadth of outreach are to be justified according to Annim (2010) which is different to definitions by Woller and Schreiner (2004) mentioned in literature

review. Scale of outreach refers to the magnitude of clients simply in terms of numbers, depth of outreach captures the relativity or extent of poor clients simply in terms of numbers, breadth of outreach is defined as the economic and demographic characteristics of clients.

These different angles of outreach and sustainability above would contribute to my interpretation of understanding inputs and outputs in each indicator and ultimate goals contribution of each indicator.

According to my interpretation and combinations of indicators, number of women served and women served as well as deposits in perception of [Meyer, Richard L.;, 2002] are referred to as Breadth of outreach in [Woller Schreiner, 2004]. Also variety of products offered in [Meyer, Richard L.;, 2002] is referred to as scope of outreach in [Woller Schreiner, 2004]. Lastly, the same indicator suggested by both authors [Meyer, Richard L.;, 2002] and [Woller Schreiner, 2004] is referred to as depth of outreach.

I shall interpret that scale of outreach above is equivalent to breadth of outreach in Woller and Schreiner (2004). Depth of outreach is the same for both papers and breadth of outreach in Annim (2010) is a sub category in breadth of outreach in Woller and Schreiner (2004).

In conclusion, secondary data is obtained from previous literatures on history of BAAC, past performance reviews and published annual reports which can be accessed publically from fiscal year 2004-2009. I shall use average financial results and indicators from 1999-2003 to compare outreach and financial sustainability results whether it is less dependent and become more sustainable institution. Above formulas for indicator calculations are shown in details for better understanding and ease of interpretation only. I shall use readily available calculations of indicators presented in annual reports and put in graphical illustrations for my own analysis to see trends for

outreach and sustainability. Graphical illustrations of various indicators of outreach and financial sustainability will be run to see relationships between each microfinance institutions goal in BAAC as a case study for contribution to the existing debate whether relationships of these goals are complimentary or trade off. Also data on government policy and secured loan as well as policy oriented supporting tools to reach the very poor will also be assessed to see performance of BAAC in accordance to moral hazard and loan effectiveness and benefits to the poor.

Chapter IV

Analysis and Findings

I would like to organize chapter four in as follows. Firstly I would like to identify times in history of BAAC in which there are significant changes to major changes in source of fund as this is main contribution towards measurement of self-sustainability of BAAC as well as ownership structures and interventions by government policies. Government projects which are claimed to have significant impact on BAAC long term financial viability would also be described in amounts, supporting channels and timeline. Outreach, efficiency and financial sustainability indicators will be graphically illustrated and analyzed over time. Not all indicators will be used because limitation of data availability. Finally, the ultimate aim of finding out relationship between outreach and financial sustainability and efficiency as a sub component of financial sustainability would be linked together for relationship identification and further analysis in answering the question of whether or not government special projects affect financial viability of BAAC.

4.2 General background

Bank of Agricultural and Agricultural Cooperatives (BAAC) was established in 1966 as government-owned agricultural development bank. It is categorized as specialized financial institution or SFI. According to Bank of Thailand (BOT) regulation, since 1992 it has to be operated with interest rate ceiling of 19% but interest rates have yet to reach the ceiling. The main objective of the bank was to provide farm households with agricultural credit as well as agricultural cooperatives. BAAC has gone through several revolutionary steps. For many years it tried hard to secure an amendment to Act 1966 to obtain permission of its lending operations to non-farm activities in rural areas.

Significant milestones

Year	Descriptions of major changes
1966	Established in 1966 under 1966 Act to lend to farm-related activities only
1975	Agricultural credit policy was issued and BAAC started borrowing from international financial agencies
1988	Expansion of branch network policy
1993	Allowed to provide loans to non-farm activities for the first time
1998	Financial crisis triggered in 1997 affected all commercial banks in Thailand therefore BAAC was authorized by central bank to diversify into non-agricultural lending as a serious issue at that time
1999	Government approved amendments to 1966 Act
2003	Active clients represent 46% of farm households in Thailand and outreach is at 46% of farm households Deposit to loan ratio reached 100% for the first time
2001	Debt suspension program for 3 years affecting financial viability of BAAC
2004	BOT and MOF implemented prudential measures on basis of Basel II on BAAC

Ownership structure and interventions

According to Haberberger (2005), more than 99% of the shares are held by Ministry of Finance (MOF) therefore literally BAAC is operating under supervision of MOF while commercial banks are supervised by BOT. It is acting as the major agricultural arm of the government therefore it has high policy oriented status. BAAC has to accommodate the particular interests of ministries and government agencies by implementing a considerable number of “special projects” in addition to its regular lending operations.

Such special projects have often had negative impact on the financial viability of the bank especially the latest project of 3 year debt suspensions in 2001. Borrowers who have less than 100,000 THB outstanding loans are permitted to suspend loan principle and interest payments for 3 years. After negotiations, government generally agrees to compensate BAAC for the interest payments not made.

In total, 50% of eligible farmers opted for debt relief and suspended their loans for 3 years which accounted for 21% of BAAC's total loan portfolio. Haberberger(2005) claimed that this debt suspension program is definitely an obstacle for BAAC to move towards the path of financial viability and it poses a potential threat to its long term sustainability. Consequently, an increase in the reserves by BAAC became unavoidable.

Source of Funds – major restructuring

Year	**Descriptions**
1966-1974	BAAC operated almost exclusively with government funds. 60% as major shares came from ministry of finance (MOF) in the form of equity contribution and minor share of 20% came from Bank of Thailand (BOT) in the form of special credit facility on preferential terms
1975-1987	Mandatory deposits from commercial banks were the major source of funds (accounted for 40%).Towards the end of 1987, deposits mobilization from general public increased significantly to one forth of total BAAC funds
1988-2001	The liberalization of agricultural credit policy caused commercial banks to reduce their mandatory deposits with BAAC. As a result, Deposits from rural areas became most important source of funds as BAAC put enormous effort

	on savings mobilization.
2001-2003	BAAC suffered great losses as a result of exchange rate fluctuations associated with foreign loans. Therefore BAAC developed a more cautious stance towards borrowings from abroad. By 2003, only 4.6% of total funds came from borrowings accounted for 28% foreign loans and 72% from domestic borrowings.
2003- Present	BAAC has become more self reliant in financial terms. Dependence on government funds, mandatory deposits from commercial banks and loans from domestic and foreign sources reduced significantly.

Government- secured lending

As mentioned previously, BAAC is main government arm for agricultural policies implementation. BAAC grants a large number of special agricultural development projects and policy lending programs. There are around 200 programs nationwide. Most special lending programs supported by government departments carry preferential interest rates. BAAC is compensated by government in the form of fees and interest compensation. Special loans are considered supply driven approach and accounted for 7.3% of the total net loans in 2003.

In addition, Thai Development Research Institute (TDRI) in 1996 following results were identified.

- Loans under government-secured lending programs do not reach the poor farmers for who they were designed, but rather the better off and more informed farmers who know the officers of the Agricultural Extension Service
- Subsidized loans are not tailored to the needs of poor farmers
- Most government secured or subsidized loans create moral hazard or unwillingness to repay the loan. This results in low repayment performance.

Table 1: BAAC Statistical highlights fiscal year 2004- 2009

Particular	2004	2005	2006	2007	2008	2009	5 year average growth	Increase/(Decrease) FY 2009/2010(%)
Net Profit (Baht Million)	1,645	1,765	2,918	5,586	6,918	7,822	36.59	13.07
Number of provincial offices/branches	689	923	983	1,020	1,037	1,052	9.48	1.45
Number of field units	907	938	945	946	956	957	1.08	0.1
Number of officers	13,209	12,889	12,943	12,700	12,612	12,472	(1.14)	(1.09)
Number of farmers registered as branch clients (households)	3,862,558	4,010,560	4,120,680	4,341,171	4,543,672	4,496,475	3.09	(1.04)
Loans extended to client farmers (Baht million)	173,095	202,429	218,354	231,758	251,480	277,767	9.92	10.45
Number of agricultural cooperatives	844	853	885	886	866	1,043	4.32	20.44
Membership of agricultural cooperatives (households)	1,511,942	1,517,199	1,559,038	1,568,208	1,525,567	1,598,068	1.11	4.75
Loans extended to agricultural cooperatives (Baht million)	28,635	36,485	42,154	48,966	58,442	54,145	13.59	(4.07)
Number of farmers' association	121	87	75	18	17	26	(26.47)	52.94
membership of farmers' associations (household)	7,234	5,842	5,634	1,209	1,142	6,664	(1.63)	483.54
Loans extended to farmers' association	109	177	163	71	165	98	(4.19)	(46.67)
Total Loan outstanding (Baht million)	378,853	421,701	428,586	449,182	479,858	504,884	5.91	5.22
Farmers	298,997	345,194	369,794	397,778	418,475	449,683	8.5	7.46
Agricultural cooperatives	14,945	17,762	21,278	22,073	24,659	25,674	11.43	4.12
Farmers' association	43	40	32	26	24	40	(1.44)	66.67
Government secured loan projects	35,195	32,183	11,969	5,592	4,247	3,686	(36.32)	(13.21)
other types of credit services	29,673	26,522	25,513	23,713	32,453	25,801	(2.76)	(20.50)
Deposits (Baht million)	354,306	431,401	496,621	514,667	585,907	642,499	12.64	9.66
Number of ATMs	-	-	110	501	600	601	40.44	0.17

Source: Annual reports of BAAC, 2004 -2009

Table 2: BAAC Statistical highlights fiscal year average 1999 - 2003

Particular	Average 1999-2003
Net Profit (Baht Million)	598
Number of provincial offices/branches	662
Number of field units	890
Number of officers	13,038
Number of farmers registered as branch clients (households)	3,622,175
Loans extended to client farmers (Baht million)	109,991
Number of agricultural cooperatives	914
Membership of agricultural cooperatives (households)	1,557,638
Loans extended to agricultural cooperatives (Baht million)	23,783
Number of farmers' association	226
membership of farmers' associations (household)	15,208
Loans extended to farmers' association	56
Total Loan outstanding (Baht million)	283,267
Farmers	231,036
Agricultural cooperatives	14,719
Farmers' association	120
Government secured loan projects	25,186
other types of credit services	12,207
Deposits (Baht million)	252,587
Number of ATMs	N/A

Source: Annual reports of BAAC, 2008

From 2 tables of statistical highlights above, I shall identify and calculate where data is sufficient and applicable for outreach, efficiency and financial sustainability indicators respectively.

4.2 Outreach indicators

1) Number of active borrowers

I would like to start off with number of active borrowers as it is in my point of view the most important and can be recognized as main indicator for outreach. Looking at different angles of outreach it is on its own in MIX Incorporation benchmark indicators. Not only it is listed as one main indicator in UNDP list and (Zeller & Meyer, 2002) but also recognized (Woller & Schreiner, 2004) as **"breadth of outreach".**

BAAC claimed that almost higher than 90% of their registered clients are borrowing from the institution at least for one loan per household. One household may have many BAAC members therefore the unit of active borrowers in this context of BAAC shall be measured in the unit of household not as an individual person. There are two categories which are direct lending to farmers and through agricultural cooperatives.

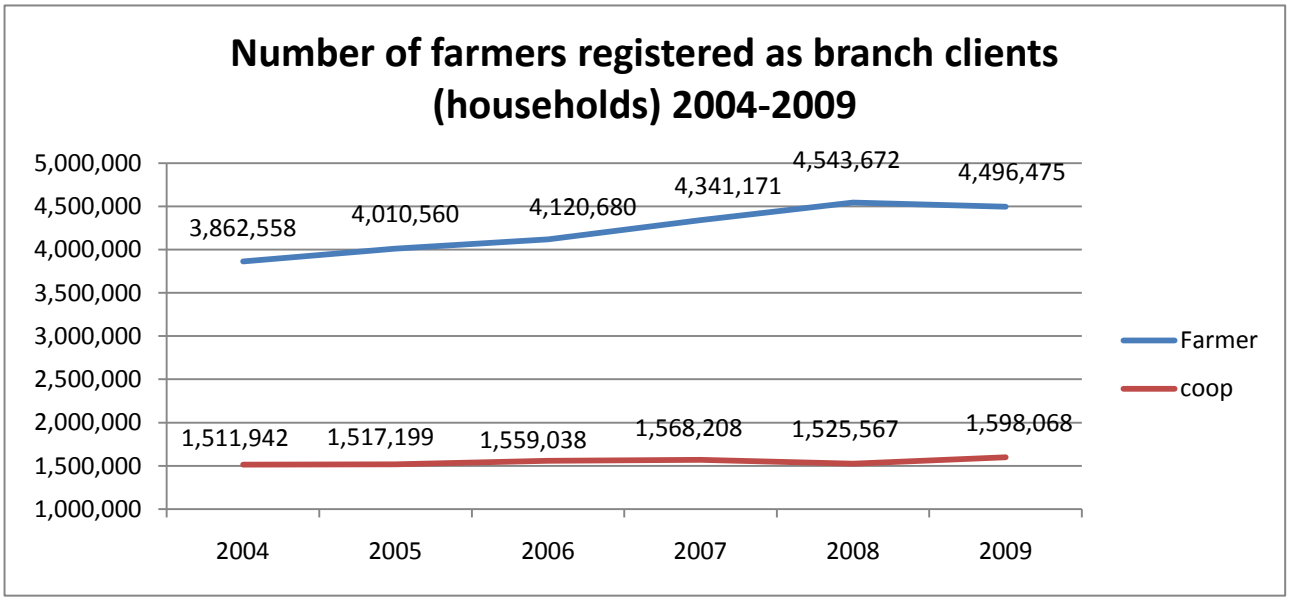


Figure 7: Number of farmers registered as branch clients (households), 2004-2009

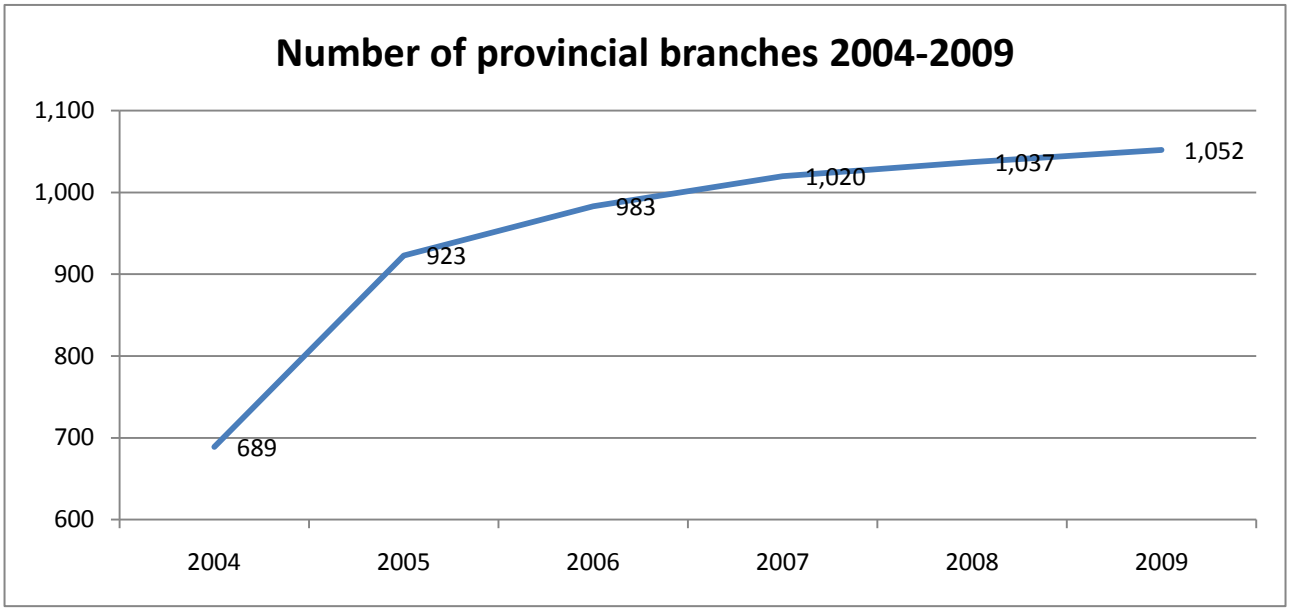


Figure 8: Number of provincial branches, 2004-2009

Analysis

Number of registered farmers and provincial branches rose over 2004-2009. Extension of branches contributes to a marginal extent in rising number of farmers registered in the branches in the period of 2004-2009 but to a great extent in previous operational period when it first implemented in 1988. However in the 5 year average growth of 9.48% in branches is higher than growth of farmers registered as clients which are accounted for only 3.09%. There is also a slight drop in number of registered clients from fiscal year 2008-2009 accounted for 1.04%.

When comparing number of branches to average of data from 1999-2003, the average number of branches was 662 branches. The number of branches in 1986 was 70 branches and after 10 years it increased to 535. We could see that at the beginning of branch extension grew rapidly but slowing down after fiscal year of 2003.The rise is very significant from 2004-2005 but the growing number of clients rose at much slower rate comparing to number of provincial branches. Number of households registered as clients are divided in two categories of individual farmers and agricultural cooperatives. Number of individual farmers grew more significantly comparing to number of agricultural cooperatives which remained slightly around 1,500,000-1,600,000 households.

In sum, BAAC performed exceptionally well in number of branches and moderately well number of clients reached as numbers remain in positive trend from 1999-2009 as far as data is available. However growth rate in the latter years from 2006-2009 is not so significant.

2) Loan outstanding Balance

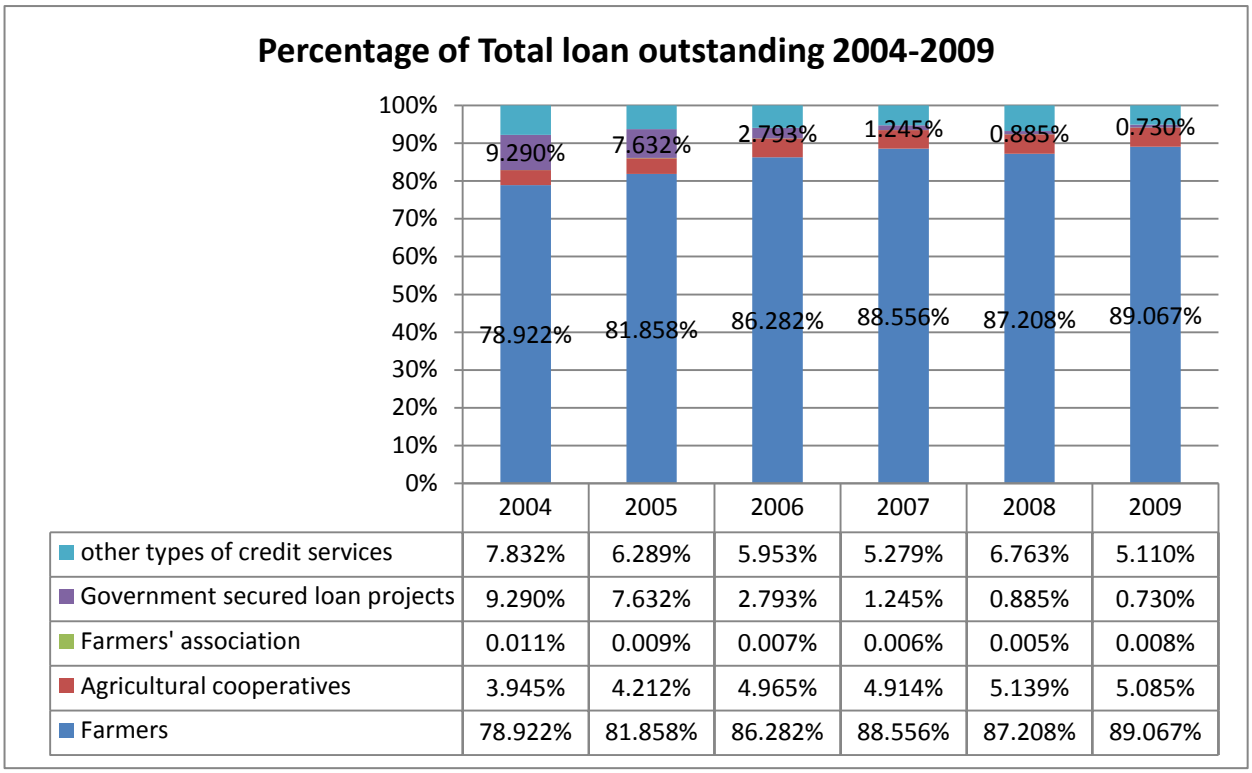
Loan outstanding can be interpreted in various ways such as number of loan outstanding, value or amount of loan outstanding and number of loan outstanding. However, the data availability is available only for amount of loan outstanding not available on number of loan outstanding. This indicator is not mentioned in UNDP list of indicators and (Zeller & Meyer, 2002) but is listed in the MIX Incorporation benchmark indicators. To my interpretation it is a measurement in context of **"breadth of outreach"** and this matched with (Woller & Schreiner, 2004). This data can be analyzed further in average of loan size per client of different types of clients against GDP or GNI per capita to examine measurement of outreach in context of "depth of outreach: indicating client poverty level which is second indicator of outreach performance in UNDP list of indicators. This will be examined later in the report.

Analysis

Looking at percentage of loan outstanding 2004-2009 in figure__, it is apparent that percentage of loan outstanding to farmers increased continuously from 78% to 89% as well as loans to agricultural cooperatives which increased continuously from around 4% to 5% with a slight decrease from 2008-2009.

In contrast, **government secured loan projects'** portion of percentage decreased slightly from 2004-2005 and continued to decrease significantly from 2006-2009. In comparison to average total loan outstanding amount and from year 1999-2003, the amount increased significantly as for the

average amount of 283,267 million Baht as from 1999-2003 to 504,884 million Baht at rate of almost 80% (78.23%). Government secured loan projects percentage of loan outstanding average amount from year 1999-2003 is 8.89% which is also considered significantly higher than amount from 2006-2009.

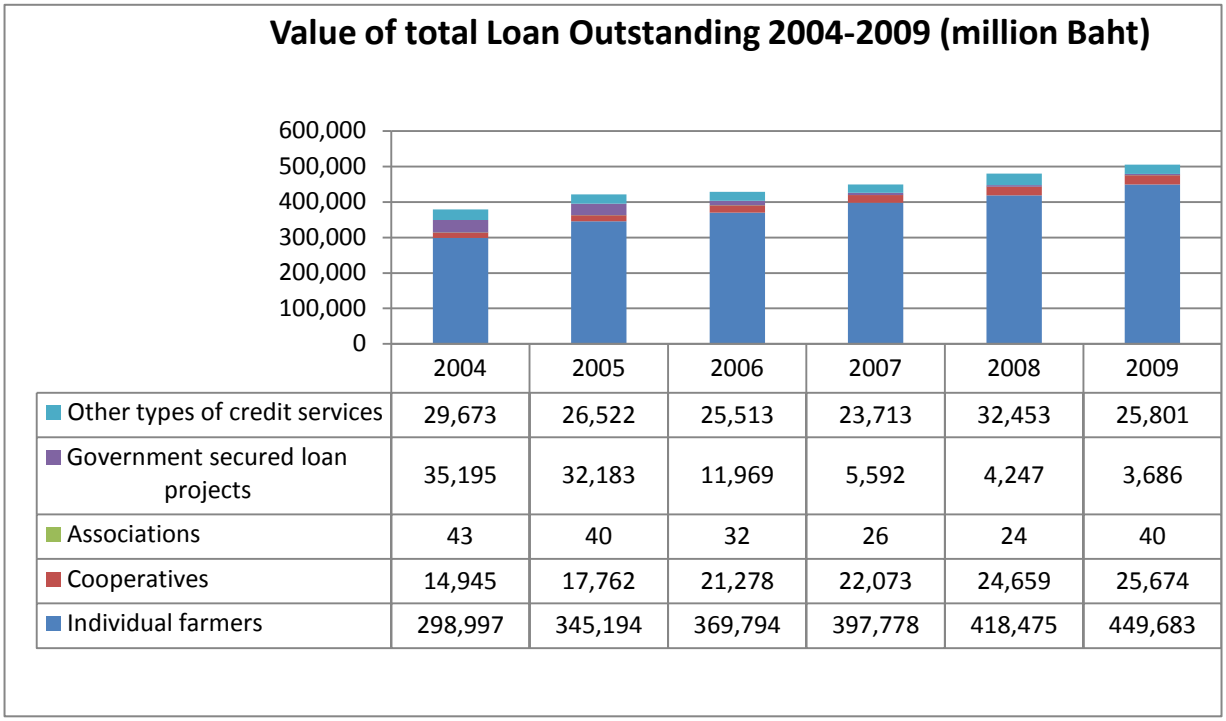


	2004	2005	2006	2007	2008	2009
other types of credit services	7.832%	6.289%	5.953%	5.279%	6.763%	5.110%
Government secured loan projects	9.290%	7.632%	2.793%	1.245%	0.885%	0.730%
Farmers' association	0.011%	0.009%	0.007%	0.006%	0.005%	0.008%
Agricultural cooperatives	3.945%	4.212%	4.965%	4.914%	5.139%	5.085%
Farmers	78.922%	81.858%	86.282%	88.556%	87.208%	89.067%

Figure 9: Percentage of total loan outstanding 2004-2009

In addition, percentage of total loan outstanding allocated to individuals average from year 1999-2003 is amounted to 81.56% increased to 89.07% in 2009 indicates higher loans geared towards individual farmers as well as joint liability lending method implemented during the late 1990s. Joint liability group mechanism is intended to facilitate the heavy workload of field officers according to Fitchett (1999). In my opinion, reducing heavy workload can increase efficiency and hence ultimately financial sustainability. This empirical data can imply and demonstrate that BAAC reacted according to poor loan recovery rates as a result of poor quality

of loan portfolio which was accounted for “cheap credit schemes” with continuation of past patterns of political intervention in the management of BAAC’s financial resources in order to further populist politics therefore undermine credit discipline of BAAC and cause erosion of its financial performance In my opinion, BAAC has not been facing problems of moral hazard in lending and managing portfolio but rather political intervention through cheap credits schemes.



	2004	2005	2006	2007	2008	2009
Other types of credit services	29,673	26,522	25,513	23,713	32,453	25,801
Government secured loan projects	35,195	32,183	11,969	5,592	4,247	3,686
Associations	43	40	32	26	24	40
Cooperatives	14,945	17,762	21,278	22,073	24,659	25,674
Individual farmers	298,997	345,194	369,794	397,778	418,475	449,683

Figure 10: Value of total loan outstanding, 2004-2009 (million Baht)

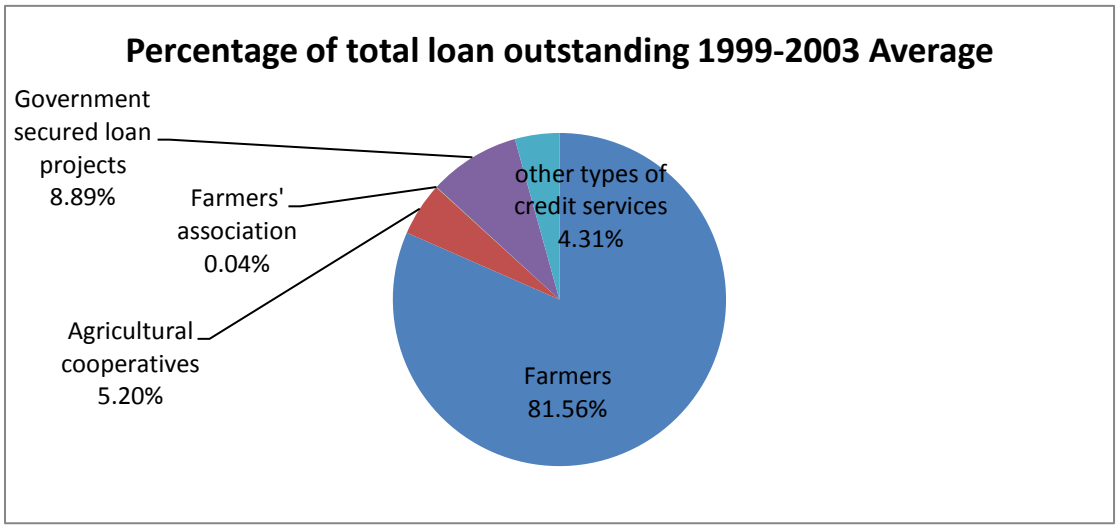


Figure 11: Percentage of total loan outstanding average from 1999-2003

As mentioned above that government secured loan projects amount of loan outstanding and as a percentage of total loans outstanding reduced greatly from 1999 – 2009. This implies that it is truly secured. It can be perceived that government secured loan projects are not effective tool to support marginal farmers but middle ranged farmers because inconsistency of policies varying through political interventions of populist parties. Examples of government secured loan projects are summarized as per table 3.

Table 3: Credit Services for Government Secured Loan Projects Fiscal Year 2009 taken from BAAC Annual report 2009

Project	Performance from start up to 31 March 2010								
	Operation Year	Loan amount target (Baht million)	No. of farmers enrolled in project	Principal outstanding brought forward (Baht million)	Loan disbursements during the year (Baht million)	Accumulated Loan disburse-ments (Baht million)	Loan repayment during the year (Baht million)	Accumulated loan repayment (Baht million)	Principa out standing (Bah million
A Farmer									
1. Agricultural Rehabilitation Plan	1992-1996	9,126.64	197,438	36.64	-	7,353.43	4.28	7,321.07	32.36
2. Agricultural Restructuring Plan	1994-1997	15,634.74	148,880	131.17	-	9,944.71	3.75	9,817.29	127.42
3. Substitution of Beef Cow Production for Cassava Pilot Project	1993	36.00	400	22.88	-	35.24	0.58	12.94	22.30
4. Substitution of Perennial Production for Cassava Pilot Project	1993	15.00	135	1.99	-	4.50	0.16	2.67	1.83
5. Chao Phraya Basin Agricultural Restructuring Project	1993	29.00	514	6.01	-	25.28	0.42	19.69	5.59
6. Informal Debt Solution Project under BAAC's Regulation No.16 and Government-Oriented-Policy Project Phase 1,2	1994	2,620.00	8,327	343.24	-	1,365.60	28.40	1,050.76	314.84
7. Provision of Fertilizers for Farmer Assistance	1992-1998	-	-	0.53	-	3,131.69	0.02	3,131.18	0.51
8. Flowering Sweet Bamboo Growers Assistance Project	1995	-	1,802	28.27	-	78.87	3.57	54.17	24.70
9. Adjusted Loan in Agricultural Restrucring Plans and Others	2005	-	-	2,647.04	-	2,845.54	252.08	1,318.99	2,394.96
10. Farmer Persuasion for Cassava Root Production Slowdown Project	2000	3,276.00	10,748	32.03	-	467.74	7.65	443.29	24.45
11. On-Farm Water Management Project	-	-	9	-	2.02	2.02	-	-	2.02
12. Loans for Postponement of Sale of Produce Project[1/]	1987-2009	-	6,028,164	971.62	58,452.48	377,733.78	58,712.60	364,968.55	711.50
Total A	**xxx**	**30,737.38**	**6,396,417**	**4,221.42**	**58,454.50**	**402,988.40**	**59,013.51**	**388,140.60**	**3,662.48**
13. Paddy Deposit in Farmer's Own Rice Barn Project[2/]	2009	-	**57,719**	-	**4,568.81**	**4,568.81**	**220.31**	**220.31**	**4,348.50**

There are also projects which benefited majority of farmers which are agricultural rehabilitation plan in year 1992-1996 and 1994-1997. Both projects benefitted in total 346,318 farmers with total loan disbursement of 17,298.14 million Baht with outstanding balance of only 159.78 million Baht in 2010. Repayment was nearly complete with only 1% of outstanding amount.

Project which was considered very well done in consistency is loans for postponement of sales of produce project which was implemented in 1987-2009. It benefitted vase number of farmers which is 6,028,164 farmers with very high repayment rate and small total loan outstanding in 2009 compared to accumulated total loan disbursement.

However, it is apparent that projects that are concentrated to benefit groups of interests and not truly reaching marginal farmers such as Beef cow production for cassava pilot project in 1993which only benefited 400 farmers with total loan of 35.24 million Baht. Up until March 2010 where fiscal year 2009 ended total loan outstanding is very high, this is amounted to 22.30 million Baht out of accumulated loan disbursement of 35.24 million Baht. After approximately 17 years 22.30 million Baht is loan outstanding balance or 63.28% of total balance meaning 36.72% of total outstanding amount was repaid in 13 years. Also on-farm water management; only 9 farmers were enrolled with total loan outstanding of 2 million Baht with zero repayment amount. Another example can be flowering sweet bamboo growers' assistance project which was implemented in 1995; total loan disbursement is amounted to 3,131.69 million Baht. Number of farmers benefited was not available. However the outstanding balance after approximately 15 years only 68.68% of loan was repaid which is accounted for 54.17 million Baht with outstanding balance of 24.70 million Baht or 31.32% of total accumulated amount of loan disbursement. Another example can be adjusted loan in agricultural restructuring plans and others implemented in year 2005 total loan outstanding is 2,395 million Baht out of 2,647 million Baht of loan disbursement. Repayment rate is obviously very low.

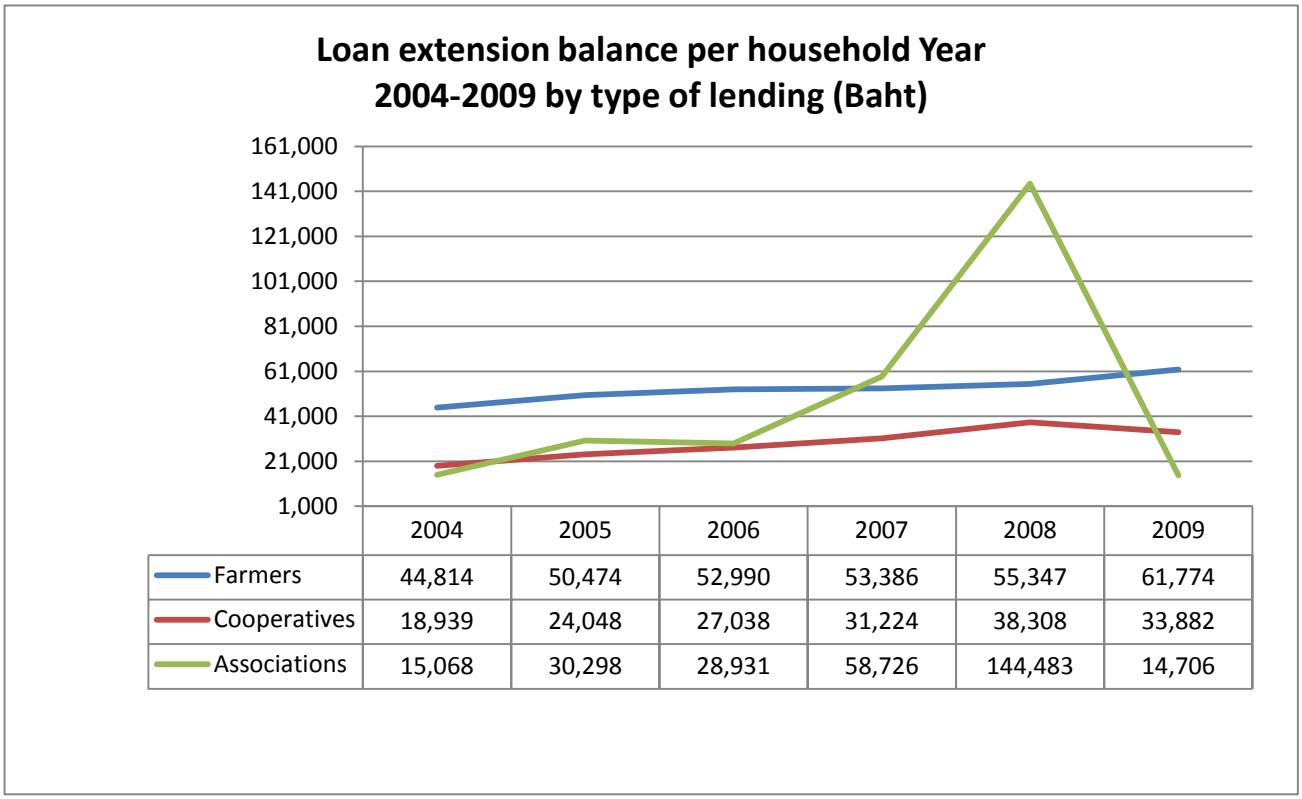
3) Average Loan Balance and Loan Outstanding per household

This indicator can be referred to as client poverty level in UNDP which I derived from formula of

$$= \frac{Gross\ amount\ of\ annual\ loans\ extension\ or\ amount\ of\ annual\ loan\ outstanding}{Number\ of\ active\ clients\ or\ accounts}$$

In this case the data shall be calculated based on unit of household according to constraint of data availability. Most importantly, this indicator can also be perceived as **"depth of outreach"** in (Woller & Schreiner, 2004) and (Zeller & Meyer, 2002) measuring how well microfinance projects can reach poor clients. All authors refer to depth of outreach therefore it can be recognized as a very important indicator.

3.1) Average Loan Extension Balance per Household



	2004	2005	2006	2007	2008	2009
Farmers	44,814	50,474	52,990	53,386	55,347	61,774
Cooperatives	18,939	24,048	27,038	31,224	38,308	33,882
Associations	15,068	30,298	28,931	58,726	144,483	14,706

Figure 12: Loan extension balance per year per household by type of lending, 2004-2009

Table 4: Loan extension balance per year per household by type of lending average 1999-2003

Loan extended per household by type of lending Average 1999-2003 (Baht)	
Farmers	30,366
Agricultural Cooperatives	15,269
Farmers' association	3,682

Analysis

Amount of loan per household in category of farmers increased continuously from 2004 – 2009 from 44,814 Baht to 61,774 Baht, amount of loan per household in category of agricultural cooperatives also increased from 2004-2008 but in 2009 the amount reduced from 2008. The result is very significant in farmers' association which coincides with number of farmers' associations which reduced from 121 to 26 associations throughout 2004-2009.

However, in comparison to average loan per household data from year 1999-2003 the result shows that the loan amount per household for farmers and agricultural cooperatives in 2009 doubled the amount reported as average in 1999-2003. Moreover, the drastic effect happened to category of farmers' associations as the loan amount per household in this category rapidly increased from 3,682 Baht per household to 14,706 Baht per household. This is more than three folds increase. The increase is even more significant in the year of 2008 as the loan extended amount per household reached 144,483 Baht per household per year. This is resulted to extremely high amount of loan extension to farmer's association while Number of households as members of these farmers' associations decreased.

Most importantly, to be able to make use and interpret this data in order to answer the question of whether BAAC is operating within reach to the truly poor or not, we are required to compare this amount of Gross Domestic Product (GDP) or Gross National Income (GNI) per capita of the overall

country in order to assess client poverty level. According to Wikipedia, **GNI per capita** is the value of a country's final income in a year, divided by its population. GNI per capita reflects the average income of a country's citizens. Knowing a country's GNI per capita is a good first step toward understanding the country's economic strengths and needs, as well as the general standard of living enjoyed by the average citizen. The data is not available as GNI per household from year 2004-2008 rather GNI per capita but available as GNI per household in 2009 therefore for estimation, one household at least comprises of 2 income earners. The estimated GNI per household per annum from 2004-2008 (estimated of 2.576 income earners per household) coincides with the GNI per household per annum obtained in 2009. Proportion of loan extended to GNI per household. Data is per household per year is shown in the table below.

Table 5: Loan extension balance per year per household as proportion of average GNI per household 2004-2009 by type of lending (Baht)

Average loan balance per household as proportion of average GNI per household year 2004-2009 by type of lending						
	2004	2005	2006	2007	2008	2009
Farmers	24.24%	25.24%	23.90%	21.93%	21.23%	24.63%
Cooperatives	10.25%	12.03%	12.19%	12.82%	14.69%	13.51%
Associations	8.15%	15.15%	13.05%	24.12%	55.41%	5.86%
Average GNI per per capita per year	71,755	77,628	86,081	94,512	101,216	97,351
No. of income earner per household as a multiplier factor	2.576	2.576	2.576	2.576	2.576	2.576
Average GNI per per household per year	184,841	199,970	221,746	243,463	260,734	250,776

Table 6: Average loan extension balance per year per household as proportion of average GNI per household average 1999-2003 by type of lending (Baht)

Proportion of loan extension to GNI per household per year by type of lending Average 1999-2003	
Farmers	19%
Agricultural Cooperatives	10%
Farmers' association	2%
Average GNI per per capita per year 1999-2003	61,056
No. of income earner per household as a multiplier factor	2.576
Average GNI per per household per year 1999-2003	157,281

Analysis

According to UNDP interpretation of this indicator in relation to client poverty level, the proportion of below 20% of per GDP per capita or household or GNI per capita or household is regarded as a rough indication that clients are very poor. Then, looking at BAAC's results, lending to farmers consistently achieved consistent result of 21%- 25%. The proportion is only slightly above standard by UNDP implying that BAAC is relative reaching very poor clients in the category of lending to farmers' households. In comparison to average result in 1999-2003, during these years level of client was lower than 2004-2009 as well as below 20% meaning that BAAC reached poorer clients better in the past operation.

However in the category of agricultural cooperatives, it can be interpreted that BAAC can reach the very poor by lending through this category as proportion is below 20% and remain in the range of 10%-15%. The proportion fluctuated within this range. BAAC can reach poorer clients by lending through agricultural cooperatives. The past operations in average results between 1999-2003 was at 10% which is same with lending through farmers that BAAC reached poorer clients better in the past operations.

Lastly, type of lending which is farmers' association, the proportion swings enormously from 2% in average result from 1999-2003 as well as results from 2004-2009 which fluctuated within the range of 5% to 56%. It seemed that BAAC reached poorer clients better in the past operations. Results are under 20% except for year 2007 and 2008 with proportion of 24.12% and 55.41% respectively. Results imply inconsistency in loan grants to farmers' associations and not truly reaching the poor farmers obviously in year 2007-2008.

However repayment rate in lending through agricultural cooperatives and farmers' associations are very low resulting in bad financial performance and threaten long term financial sustainability which will be further described in the latter section.

UNDP suggested that low loan sizes do not guarantee a low clientele. Likewise, growth in average loan size does not necessarily mean that a MFI is suffering "mission drift". Mission drift means MFI moves or is going away from poor clientele for better profitability. BAAC grows in average loan size for farmers and relatively agricultural cooperatives but not farmers' associations. However the proportion indicates that it is moving in a small range meaning BAAC is not suffering "mission drift" and still is serving poor clientele but not poor enough to be below 20% according to UNDP benchmark.

3.2) Average Loan Outstanding per household

According to UNDP explanation, average loan outstanding balance is related to client poverty because the better off clients tend to be uninterested in smaller loans. As MFI matures and growth slows, a lower percentage of its clients are first time borrowers and average loan sizes will rise even there has been no shift in the market it is serving. This indicator can be referred to as **"depth of outreach".**

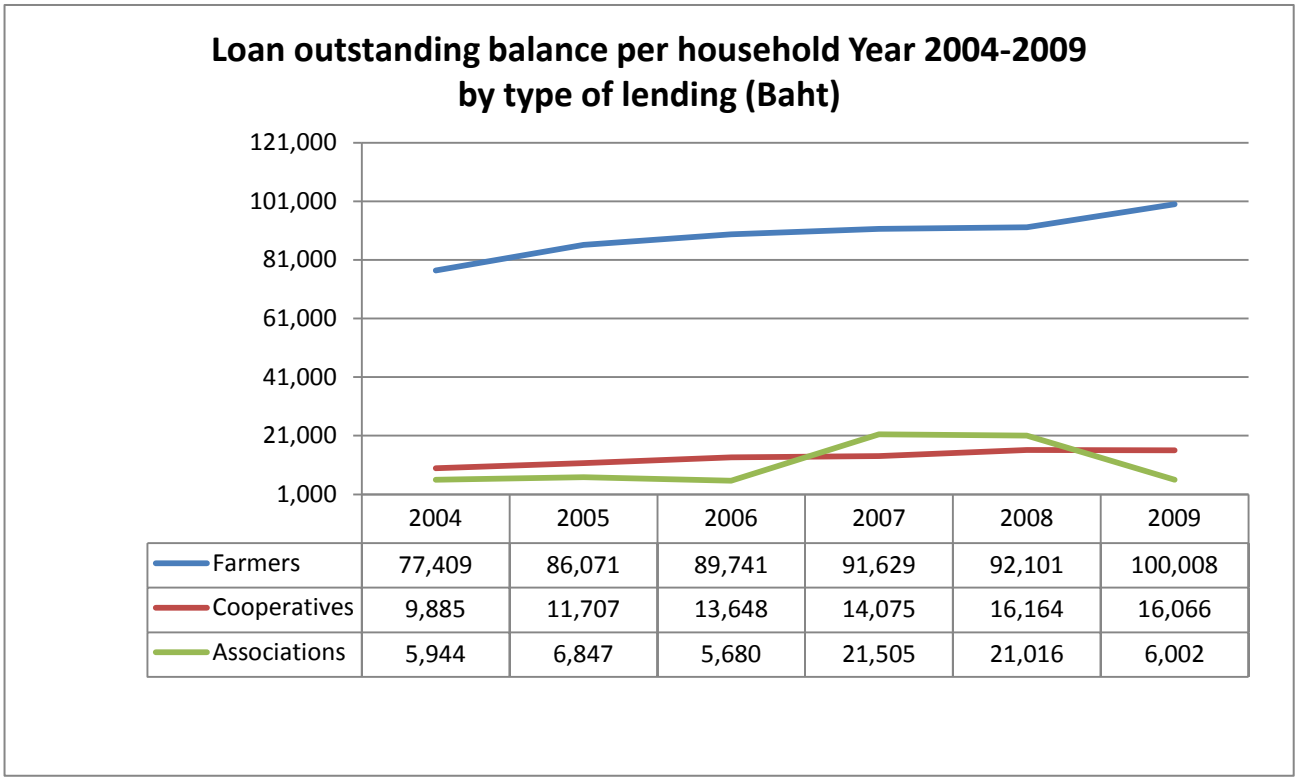


Figure 13: Loan outstanding balance per year per household by type of lending, 2004-2009

Table 7: Loan outstanding balance per year per household as proportion of average GNI per household 2004-2009 by type of lending (Baht)

Average loan outstanding per household as proportion of average GNI per household year 2004-2009 by type of lending						
	2004	2005	2006	2007	2008	2009
Farmers	41.88%	43.04%	40.47%	37.64%	35.32%	39.88%
Cooperatives	5.35%	5.85%	6.15%	5.78%	6.20%	6.41%
Associations	3.22%	3.42%	2.56%	8.83%	8.06%	2.39%
Average GNI per per capita per year	71,755	77,628	86,081	94,512	101,216	97,351
No. of income earner per household as a multiplier factor	2.576	2.576	2.576	2.576	2.576	2.576
Average GNI per per household per year	184,841	199,970	221,746	243,463	260,734	250,776

Table 8: Loan outstanding balance per year per household by type of lending average 1999-2003

Loan outstanding per household by type of lending Average 1999-2003 (Baht)	
Farmers	63,784
Agricultural Cooperatives	9,450
Farmers' association	7,891

Table 9: Average loan outstanding balance per year per household as proportion of average GNI per household average 1999-2003 by type of lending (Baht)

Proportion of loan extension to GNI per household per year by type of lending Average 1999-2003	
Farmers	41%
Agricultural Cooperatives	6%
Farmers' association	5%
Average GNI per per capita per year 1999-2003	61,056
No. of income earner per household as a multiplier factor	2.576
Average GNI per per household per year 1999-2003	157,281

Analysis

It is very apparent that loan outstanding balance per household increased in the category of lending to farmers from 63,784 Baht to 100,008 per year per household from average data of 1999-2003 and 2004-2009. This is accounted for 56.79% which is significant. However increase in 2004-2009 in farmers lending category is less but remain significant at 29.19%.

While in the category of agricultural cooperatives lending amount from 2004-2009 increased more than doubled at rate of 62.53% as well as in comparison of loan outstanding balance in 2004 to average outstanding balance from 1999-2003 as loan outstanding balance of 9,450 million Baht and 9,885 million Baht, the result did not different much. The increase is significantly meaningful for increase from 1999-2009 as 10 years rise in loan outstanding balance accounted for 70%. On the

contrary, the opposite result of decrease in lending in the type of farmers' association as the amount outstanding in 2009 is even lower than average loan outstanding in this type from 1999-2003. Loan outstanding shot very high during 2007-2008 but failed considerably in 2009. This implies consistency in policy of BAAC.

Moreover, in comparison of loan outstanding per year per household to GNI per capita per year per household the pattern is almost identical with loan extension. However the proportion indicating clientele poverty level is much different especially in the category lending of farmers. Proportion is very consistent in the farmers lending type in the range of 35 % - 43% from 1999-2009. No significant different between results in 1999-2003 and 2004-2009. The overall pattern is that BAAC achieved to reach lower-end clientele from 2005-2009 performing better than period of 1999-2003.

However the proportion is almost double UNDP benchmark indicator of 20%. This means that BAAC is not truly reaching out to very marginal farmers in type of directly lending to farmers. This requires attention in policy making to tailor more to reach out to very marginal farmers.

In category of lending to agricultural cooperatives and farmers' associations, the proportion throughout 1999-2009 did not fluctuate much at all in agricultural cooperatives but considerably fluctuate in farmers' associations. Overall result of 2004-2009 improved (except for high shot in 2007 and 2008) compared to 5% average in period of 1999-2003. In addition the proportion of these two latter types of lending is much lower compared to category of lending to farmers and lower than UNDP benchmark indicator of 20% implying that BAAC can reach out to poorer farmers better this way.

4) Deposits

This indicator is not presented in UNDP indicator and [Zeller Meyer, 2002] but is indicated in the indicator of MIX Incorporation benchmark indicators and [Woller Schreiner, 2004] . It can be referred to as **"Breadth of outreach".**

Deposits can be categorized in two ways according to MIX Incorporation namely, voluntary and compulsory. These two terms can be defined as follows.

Voluntary deposits are demand deposits from the general public and members that are not maintained as a condition for accessing a current or future loan and are held with the institution.

Compulsory deposits are client saving accounts that are maintained as a condition for a current or future loan that are held with the institution.

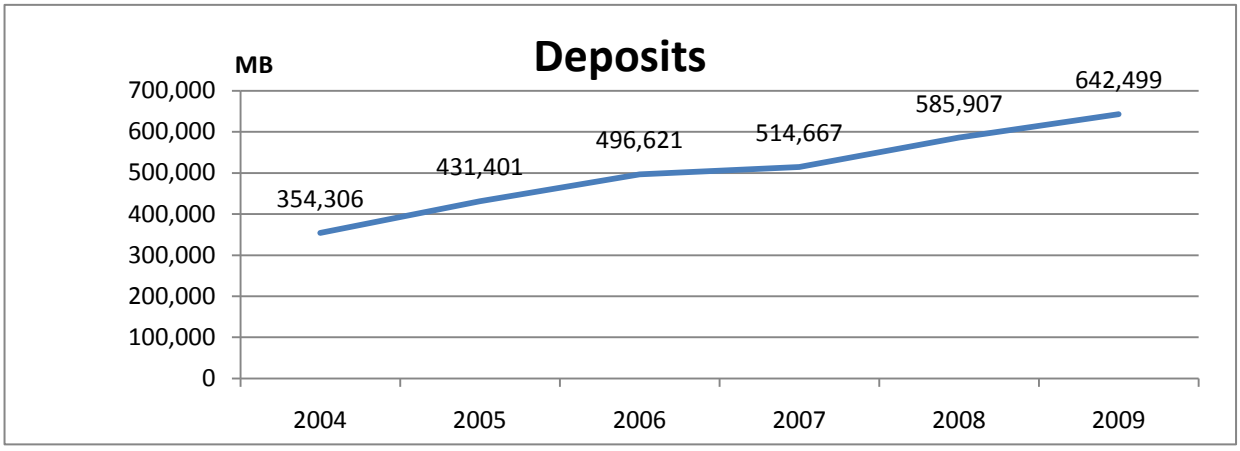


Figure 14 Deposits amount 2004-2009

As outreach increases, amount of deposits also increase. We can see increasing trend from 2004-2009. Also referring to average deposits amount from 1999-2003, the amount was 283,267 million Baht. Increase to 642,499 million Baht from 283,267 million is very significant. Increasing in

deposits also indicates higher sustainability of the institution as there is more deposit the dependence on subsidies would be less.

However, in case of BAAC, a lot of government policies pressure its level of sustainability down further. This results in support by ministry of finance in holding shares contributing in more control and equity in assets. This will be explained further in sustainability part.

In case of BAAC, clients are not forced to have a certain amount of deposits as well as assessment on current and future loan is not dependent on amount of deposits but rather purpose of lending, strength of joint liability groups and history of credit and repayment therefore all deposits in BAAC are considered totally **voluntary**. However clients in order to take out loans or be assessed, they have to be registered as members of BAAC and at least put small amount of money into account. This is more for purpose of transparency and auditing not to assess anything at all.

4.3 Conclusion of outreach performance of BAAC

As far as data permits two main types of outreach were examined and analyzed for interpretation of trend and directions for 2004-2009 as well as in comparison to operations in period of 1999-2003. These two main types of outreach are “Breadth of outreach” and “depth of outreach”.

Breath of outreach performance was very well done from 1999-2003 as well as 2004-2009 in terms of increase no. of households registered as active members, loan outstanding, deposits. However, **depth of outreach performance** indicated by loan extension amount, loan outstanding amount per household per year themselves and in comparison to GNI per household per year. Even though the amount increased continuously, the proportion to GNI per household per year especially in the category of farmers failed to meet UNDP benchmark indicator of 20%. This coincides with what Thai Development Research Institute (TDRI) claimed in 1996 that “loans under government-

secured lending programs do not reach the poor farmers for who they were designed, but rather the better off and more informed farmers who know the officers of the Agricultural Extension Service" and "subsidized loans are not tailored to the needs of poor farmers".

Moreover, particular attention was paid in analyzing **government secured loan projects** as the amount in loan outstanding in this category failed significantly throughout 1999-2009. The result found that it is apparent that projects that are concentrated to benefit groups of interests and not truly reaching marginal farmers for example, Beef cow production for cassava pilot project, on-farm water management and flowering sweet bamboo growers' assistance project. This implies that it is not truly secured in providing these types of government secured loans. Also evidence of another statement claimed by TDRI (1996) is that most government secured or subsidized loans create moral hazard or unwillingness to repay the loan. This results in lower repayment performance of BAAC and is a threat to long term sustainability. This holds true in my findings as well.

Even though proportion in the category of agricultural cooperatives proportion reached the very poor as percentage is lower than 20% however the repayment rate is lower than in the category of farmers and profitability is also lower. Also in the category of farmers' association, it can reach the very poor but repayment rate is the lowest among all types of lending.

In addition, even though BAAC is performing very well is breadth of outreach but its performance in depth of outreach is proportions of loan extension to GNI per household per year are slightly higher than UNDP benchmark indicator of 20% indicating that poverty level of BAAC clientele is not very poor or BAAC is not truly reaching the marginal farmers but rather middle ranged farmers. Depth of outreach can be examined also in terms of proportions of loan outstanding to GNI per household per year are to significantly higher than UNDP benchmark indicator of 20% confirming that BAAC is not truly reaching the marginal farmers but rather middle ranged farmers. Another word to conclude overall performance of BAAC in terms of outreach is that **"an evidence of**

conflicting result is found in breadth of outreach and depth of outreach".

4.4 Financial Performance and efficiency Indicators

Table 10: Summary of highlight financial ratios from 2005-2009

Summary of highlight Financial Ratios 2005-2009					
Fiscal year	2005	2006	2007	2008	2009
Net profit to total income (%)	5.71	7.27	12.75	15.10	16.57
Average returns on assets (ROA) (%)	0.38	0.55	0.97	1.11	1.10
Average returns on shareholders' equity (ROE)(%)	3.90	6.15	10.81	11.63	11.43
Personnel expense to total income (%)	26.48	20.86	21.16	21.92	22.26

1) Net profits

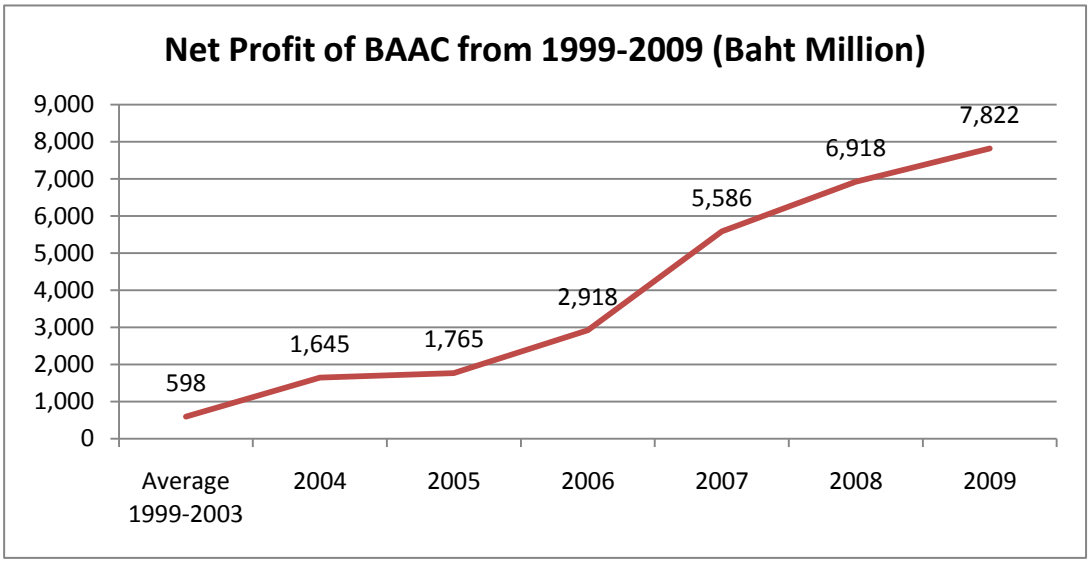


Figure 15: Net profit of BAAC from fiscal year 1999-2009

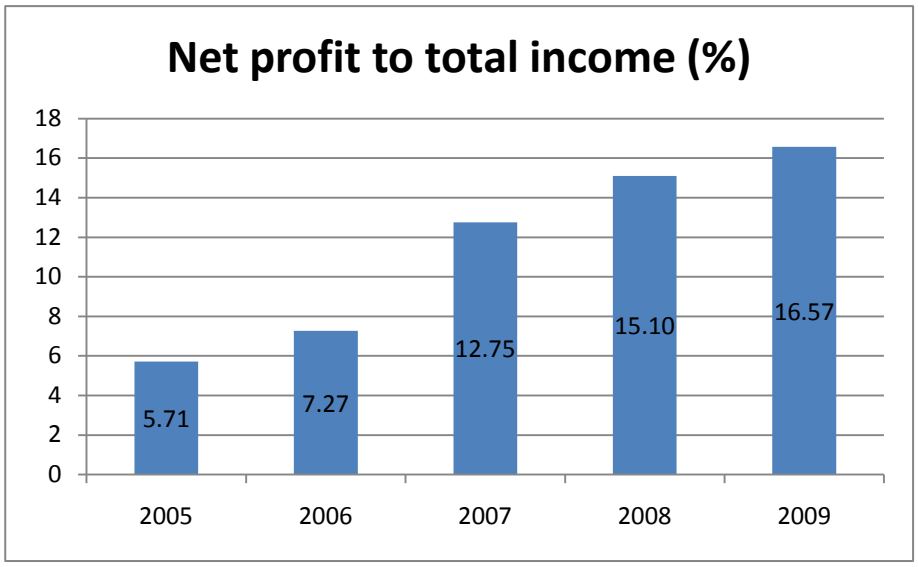


Figure 16: Percentage of net profit to total income of BAAC from fiscal year 2005-2009

Analysis

Net profit is main financial performance indicator. This means that overall throughout past decade BAAC is performing very well and managing 3 types of risks that all MFIs have to face which are subsidy risks, covariant risks and default risks. The result is obvious that BAAC is enjoying steady net profit as well as breadth of outreach. The percentage of growth is accounted for 36.59% for the last 5 years which I consider highly significant and the result in 2004 almost jumped as high as 3 folds increase from average result throughout 1999-2003.

In addition, percentage of net profit to total income of BAAC from fiscal year 2005-2009. The result is significant as over 5 years the percentage of net profit to total income grew 10.86%. High jump was due in 2006-2007 from 7.27% to 12.75% as a result of restructuring of institution and reducing unnecessary expenses.

2) Return on Assets (ROA)

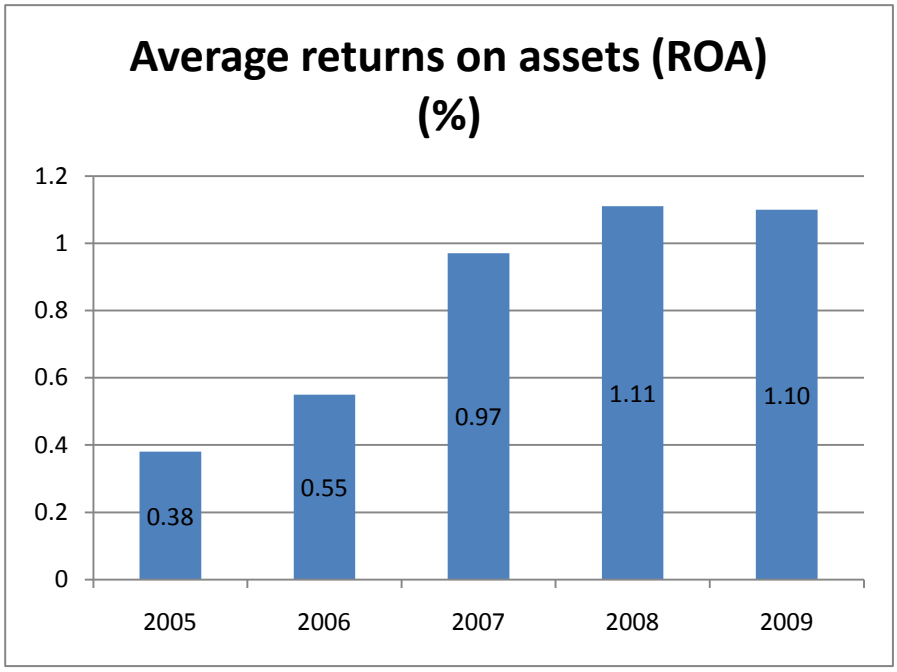


Figure 17: Percentage of average returns on assets (ROA) of BAAC fiscal year 2005-2009

Analysis

ROE is a financial performance indicator. It indicates how much in percentage that income received as revenue returns on total assets invested. Ratio continues to grow from 0.38 to 1.10. Trend follows the same pattern as net profit. In the year 2008-2009, the ratios are even higher than 1. The ratio in 2009 contracted slightly from 2008.

Overall increasing trend is very well observed implying that even Breadth of outreach is increasing but BAAC is still managing very well in credit risk management in screening and monitoring.

3) Returns on Equity (ROE)

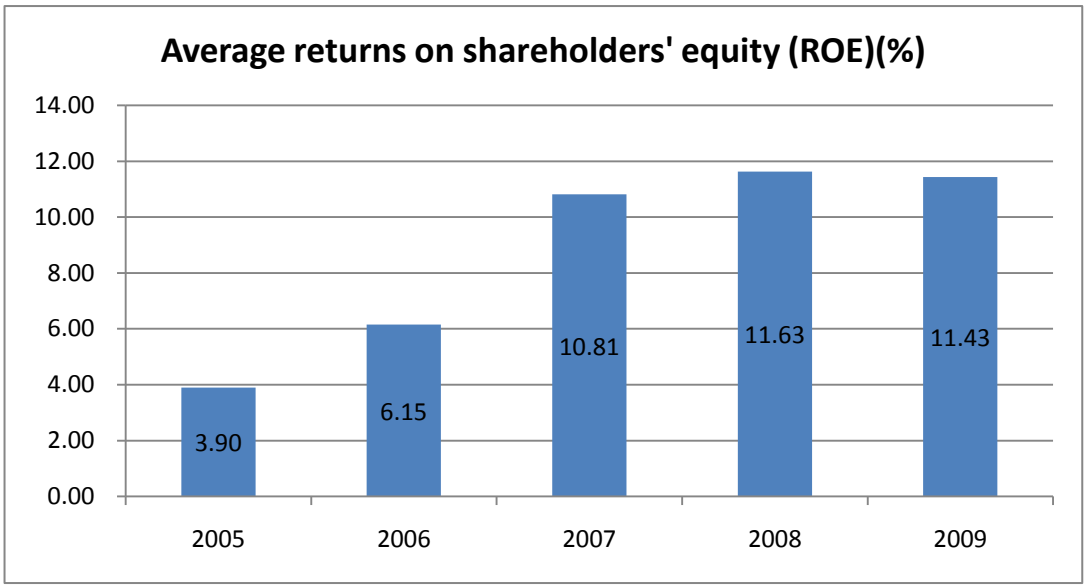


Figure 18: Percentage of average returns on shareholders' equity (ROE) of BAAC 2005-2009

Analysis

ROE is a financial performance indicator. It indicates how much in percentage income received as revenue in comparison to returns on total shareholders' equity. Ratio continues to grow from 3.90 to 11.43%. This is the same pattern as net profit and ROA. In the year 2007-2009, the percentages are higher than 10 meaning the financial performance is very well done that income gives more than 10% returns to equity of shareholders as investment. The ratio in 2009 contracted slightly from 2008. Overall increasing trend is very well observed implying that even Breadth of outreach is increasing but BAAC is still managing very well in credit risk management in screening and monitoring.

4) Personnel Expenses to total income (%)

Percentage of personnel expenses to total income is an efficiency indicator which can be interpreted as how well BAAC controls administrative costs in continuation of outreach in loan disbursement.

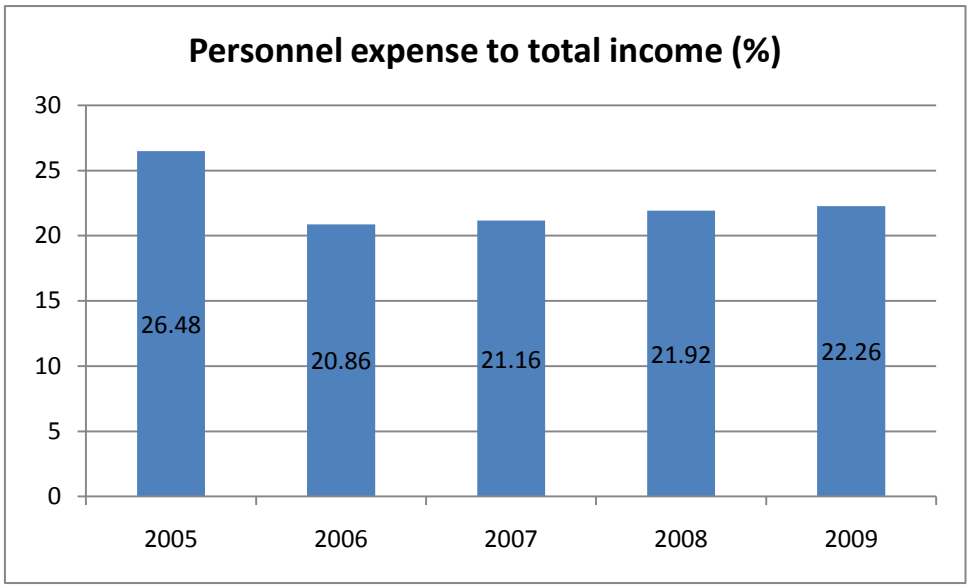


Figure 19: Percentage of personnel expense to total income of BAAC 2005-2009

Analysis

Percentages of personnel expenses to total income in fiscal year 2005-2009 are improving. The lower the percentage the better BAAC is doing in terms of controlling administrative expenses in continuation of outreach in loan disbursement. Percentages of personnel expenses to total income in fiscal year 2005-2009 are considered very consistent from 2006-2008 as improving trend even though a slight increase in 2009 but not so much. The result of high percentage in 2005 can result from branch extension as there is a sharp increase from 2004-2005 from 689 branches to 923 branches (increase of 234 branches) and more staff increases cost in personnel as a consequence. The range is from 20.86% to 26.48% which is narrow as fluctuation is not presented. This implies that BAAC is doing very well in controlling administrative costs even branch extension continues however not so extensive as in the 1980s and from 2004-2005 and breath of outreach increases.

5) Collection performance and Non-performing loans (NPL)

Table 11: Collection performance of BAAC from 2001-2009

Collection Performance of BAAC from 2001-2009									
Fiscal year	2001	2002	2003	2004	2005	2006	2007	2008	2009
Amount in arrears in total	N/A	N/A	N/A	N/A	N/A	52,996	53,358	48,593	50,912
NPL (more than 3 months overdue but not higher than 2 years)	24,074	22,400	23,973	23,922	21,787	38,839	43,820	35,540	37,961
NPL as a percentage of loan outstanding	8.52	7.75	7.45	6.31	5.17	9.93	10.44	8.02	7.99

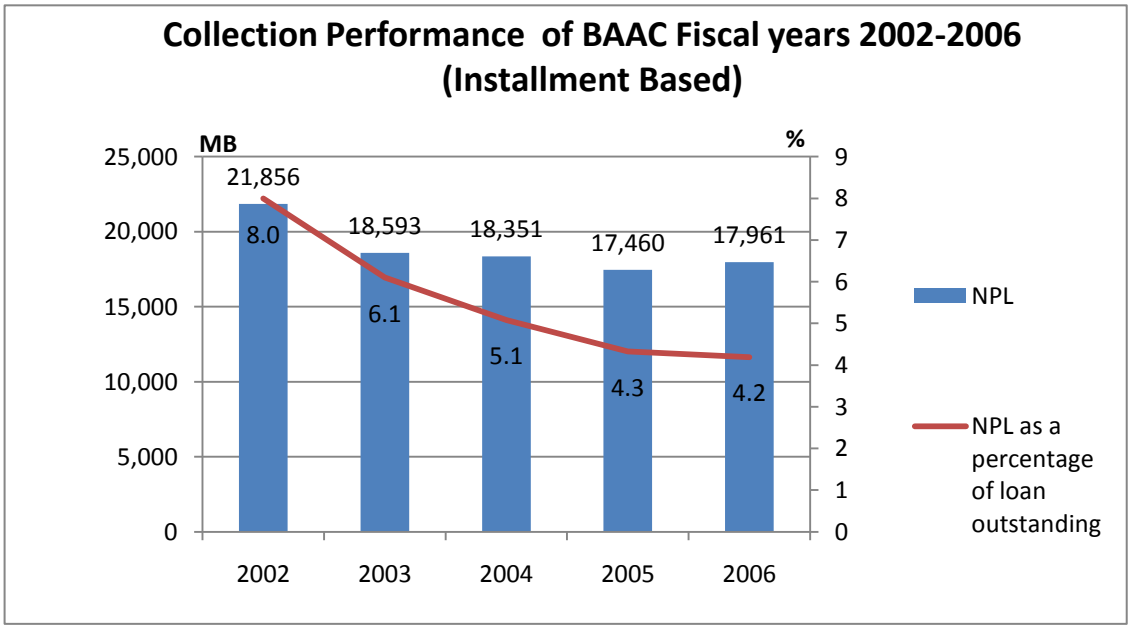


Figure 20: Amount of NPL and NPL as percentage of loan outstanding of BAAC from 2002-2006

Analysis

Collection performance improved throughout 2002-2006 as we can see that the amount continuouslyy reduced. However, it would be more meaningful to compare amount of overdue debts to loan outstanding. The percentage of NPL to amount of loan outstanding reduced throughout 2002-2006 from 8% to 4.2%. Ratio became better around 1% per year.

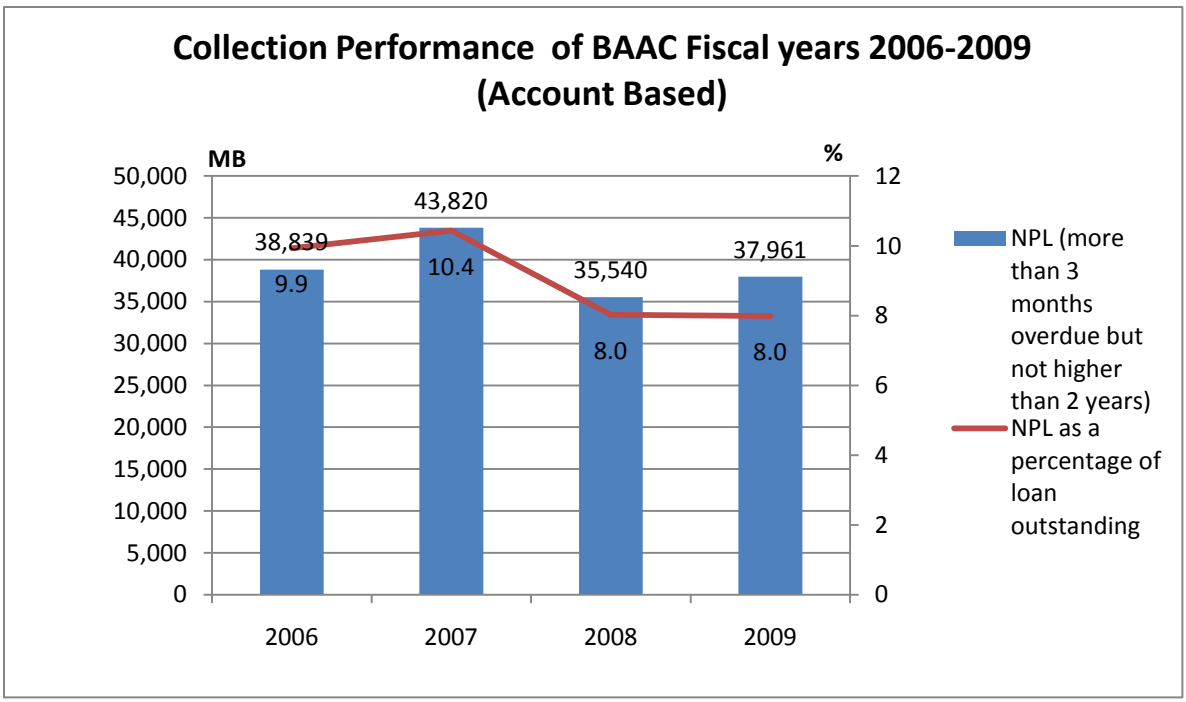


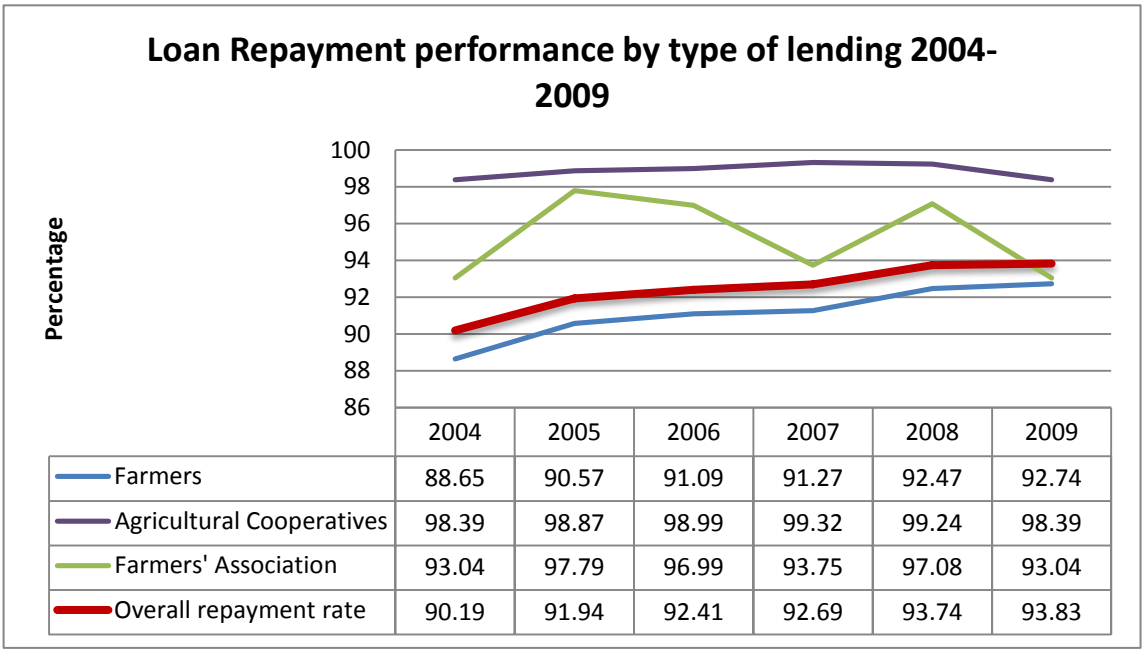
Figure 21: Amount of NPL and NPL as percentage of loan outstanding of BAAC from 2006-2009

Analysis

In FY 2007, BAAC changed the measuring method of loans in arrears from installment base to account base which results in higher NPL and NPL as a percentage of loan outstanding.. Account-based method is better for improvement of tracking and thus would lead to higher efficiency and performance in loan collection, categorizes loan in arrears into 4 categories according to duration overdue from due date of Special mention, sub-standard, doubtful and doubtful of loss. NPL comprises of the latter 3 categories. In following figure, the NPL is calculated base on more than 3 months but not higher than 2 years. The collection performance during 2007-2008 improved from 10.4 % to 8%. This is because innovation of tracking system of loan collection which is at the heart of microfinance triangle theory by [Zeller Meyer, 2002]. The collection performance during last 2 years is almost the same. The reason for the hike in 2007 in both amount of NPL and NPL as

percentage to amount of loan outstanding is due to coup de ta at the end of 2006 and political instability resulting in worsening economic conditions.

6) Repayment rate by type of lending



	2004	2005	2006	2007	2008	2009
Farmers	88.65	90.57	91.09	91.27	92.47	92.74
Agricultural Cooperatives	98.39	98.87	98.99	99.32	99.24	98.39
Farmers' Association	93.04	97.79	96.99	93.75	97.08	93.04
Overall repayment rate	90.19	91.94	92.41	92.69	93.74	93.83

Figure 22: Loan repayment performance by type of lending 2004-2009

Analysis

Amount of loan outstanding at the beginning of the year for 2006,2007 and 2009 are excluded from restructuring and amounted to 40,185 and 17,254 and 17,395 million Baht for farmers each year respectively and amounted to 34, 32 and 30 each year respectively. During the end of 2006, Thailand had coup de ta. However the overall repayment rate continue to increase throughout 2004-2009 as well as in lending category of farmers and agricultural cooperatives but very fluctuating in the category of farners' association as I expected that it was a affected by coup data at the end of 2006 for low repayment in 2007 and improved in 2008 due to flood in vietnam therefore price of rise increased due to supply shortage. In 2009 there was flood in the rice fields areas of Thailand so

overall repayment rate slightly reduced in category of agricultural cooperatives and significantly reduced in category of farmers' associations which I expect that this is due to in the mix of clients in the category of farmers there is a mix of many crops and farming activities but for agricultural cooperatives and farmers' associations category there is concentrated of farmers with rice products.

4.5 Financial Sustainability Indicators

1) Sources of fund structure

Sources of fund structure indicates level of self-sufficiency of the institutions.

Table 12: Sources of fund structure in percentage, 1967 - 2003

	1967	1973	1980	1987	1993	1998	2001	2003
Deposits from the public	11%	17%	12%	25%	48%	62%	76%	83%
Mandatory deposits from CBs	--	--	39%	39%	7%	1%	-	-
Borrowings	19%	22%	35%	29%	32%	25%	13%	4.6%
Shareholders' Equity	66%	57%	12%	6%	8%	7%	7%	8.4%
Other liabilities	4%	4%	2%	1%	5%	5%	5%	4%
Total	100%	100%	100%	100%	100%	100%	100%	100%
Deposit-to-loan ratio	14%	19%	21%	38%	66%	83%	98%	100%

Table 13: Sources of fund structure in percentage, 2004-2009

Percentage of operating fund classified by sources 2004-2009						
Fiscal year	2004	2005	2006	2007	2008	2009
Deposit	83.89	85.95	87.73	87.50	85.38	83.99
Interbank and money market	N/A	N/A	N/A	N/A	0.76	0.82
Borrowing	2.25	2.25	1.62	1.02	1.83	2.11
Other liabilities	3.44	2.65	2.02	2.22	2.74	3.46
Shareholder's equity	10.42	9.15	8.63	9.26	9.29	9.62
Percentage of shares held by MOF in shareholders' equity	82.94	81.08	77.08	71.61	66.51	62.21

Analysis

Sources of fund structure can also be referred to as capital structure. In the first stage of establishment in 1966, BAAC was so much dependent on shareholder's equity (which is held by Ministry of Finance) accounted for 66% and borrowings from abroad 19%. Deposits in source of

funds are accounted to only 11%. Bank of Thailand had to lend hand in during year 1980-1987 heavily by extension of loans to BAAC taken control over from MOF until 1998 however MOF still holds majority of shares in shareholder's equity around 6%-10% from 1987 until 2009. However deposits and borrowing increased significantly throughout 1967-2003 which it finally reached 83% and remained in range of 83% - 88% throughout 2004-2009. Borrowing from broad dropped since 2001 due to realization of huge risk in loss in currency devaluation. Another Significant change is that MOF's shares in shareholders' equity started to reduce gradually after long years of BAAC operation from 2004-2009 from 83%-62%. Above analysis shows that BAAC has achieved very great result in institution restructuring towards self-sufficient microfinance institution.

2) Deposits to loan ratio

Deposits to loan ration is an indicator that measure self-sufficiency and the ability of the institution to mobilize savings

Table 14: Deposits to loan ratio 1986 – 1996 taken from Fitchett (1999)

Fiscal year	Deposit from the public (US$ million)	Loans outstanding (US$ million)	Deposit to loan ratio
1986	270.6	886.2	0.31
1987	342.9	909.5	0.38
1988	452.9	998.6	0.51
1989	662.0	1,210.3	0.51
1990	819.2	1,528.2	0.54
1991	1,235.5	2,000.0	0.62
1992	1,470.2	2,753.0	0.53
1993	2,064.0	3,146.7	0.66
1994	2,728.9	4,063.5	0.67
1995	3,661.2	5,402.8	0.68
1996	5,050.8	6,878.5	0.73

Table 15: Deposits to loan ratio 2004 – 2009

Deposit to Loan ratio 2004-2009			
Fiscal year	Deposits (Million Baht)	Loan outstanding (Million Baht)	Deposit to loan ratio
2004	354,306	378,853	0.94
2005	431,401	421,701	1.02
2006	496,621	428,586	1.16
2007	514,667	449,182	1.15
2008	585,907	479,858	1.22
2009	642,499	504,884	1.27

Analysis

Deposits to loan ratio shall confirm above analysis shows that BAAC has achieved very great result in institution restructuring towards self-sufficient microfinance institution. Deposit to loan ratio has gradually improved throughout 1967-2009 which is the nearly almost all years of operation. During 1987 – 2001 it improved a lot due to launching of special promissory note. It imitated the lottery system. BAAC members are also influenced by media because the 1st prize award is considered very high compared to normal government lottery. The deposits to loan outstanding percentage reached 100% for the first time in 2003. During 2004-2009, deposit to loan ratio continued to increase. Deposit amount increase because of launching new products such as retirement deposits, promissory notes. These demanded oriented products raised up deposits from public in a high degree **.**Deposit to loan ratio is higher means that BAAC has self-sufficient**.** But if it too high, it will be deposit interest burden. BAAC is truly moving towards self-financing institution. According to theory of 3 levels of institution, BAAC is now in level 3 meaning that the institution is generating positive returns on assets. The financial costs of operation are also covered: capital for on-lending is raised through commercial loans, deposits and income is enough to cover the costs of these loans.

4.6 Relationship between outreach and financial sustainability

A number of indicators were calculated, examined and analyzed over time in period of 2004-2009 and previous years in relation to availability of data to interpret trend of outreach, financial performance with an efficiency indicators as well as sustainability indicators in order to understand relationship between outreach and financial sustainability whether it is complimentary or trade-off. In the figure below "Breadth of outreach" (represented by No. of registered households as active borrowers from the 3 types of lending categories combined) increased continuously in correlation to financial performance and sustainability (represented by net profit). This implies that as outreach increases BAAC is managing all types of risks especially credit risks very well as financial performance is positively increasing. This is clearly a complimentary relationship in BAAC's case. Net profit and breadth of outreach are representatives of financial performance in further contribution to financial sustainability and outreach respectively.

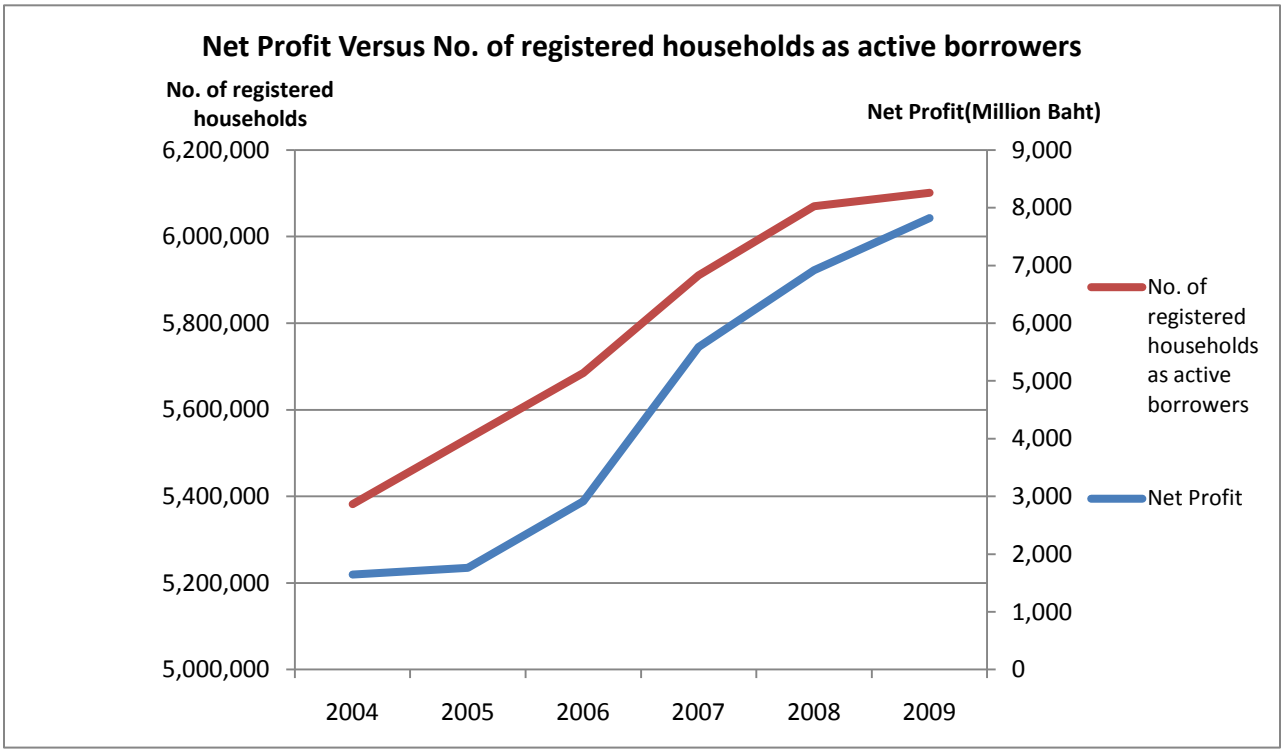


Figure 23: Net Profit versus number of registered households as active borrowers

Other indicators of "breadth of outreach" that were examined in this report are as follows

- Number of provincial branches
- Loan extension balance
- Loan outstanding balance by type of clients
  - Farmers
  - Agricultural Cooperatives
  - Farmers' Associations
  - Government secured loan projects
- Deposits (not allocated to each type of clients)

All of above "breadth of outreach" indicators have **complimentary relationship** with financial performance and ultimately financial sustainability. However if we look into more details of sub-category of loan outstanding balance by type of clients, it is found that Agricultural Cooperatives' results are stagnant, farmers' associations' results are fluctuating and decreasing as well as government secured loan projects.

Other indicators of "depth of outreach" that were examined in this report are as follows

- Average loan extension balance per household in proportion to GNI per household per year
- Average loan outstanding balance per household in proportion to GNI per household per year

However, in terms of "depth of outreach" (represented by indicators of loan extension balance per household to GNI per household per year and loan outstanding balance per household to GNI per household per year), I found that the relationship between depth of outreach and financial sustainability is rather trade-off. There are important implications as follows

- Loans under government-secured lending programs do not reach the poor farmers for who they

were designed, but rather the better off and more informed farmers who know the officers of the Agricultural Extension Service

- Subsidized loans are not tailored to the needs of poor farmers
- Most government secured or subsidized loans create moral hazard or unwillingness to repay the loan. This results in low repayment performance.

The results in both loan extension and loan outstanding in proportion to GNI per capita suggested that BAAC is performing below 20% which is UNDP benchmark indicator to measure poverty of clients' pool benefiting from the loan. In conclusion, relationship between depth of outreach and financial performance and ultimately financial sustainability is a **trade-off relationship**.

Indicators of financial performance and financial sustainability, unlike outreach which are divided into two main angles of measurement, below indicators are examined in and results of indicators are slightly different but best fitted in the overall trend.

Other indicators of "financial performance" that were examined in this report are as follows

- Net profit
- Net profit to total income percentage
- Return on assets (ROA)
- Returns on shareholders' equity (ROE)
- Collection performance and non performing loans
- Repayment performance by type of clients
- Personal expenses to total income percentage as an efficiency indicator towards financial performance

Financial performance indicators above contribute to financial sustainability however direct indicators of financial sufficiency and sustainability that were examined in this report are as follows

- Sources of fund structure
- Deposits to loan ratio

In conclusion, there are two types of results but BAAC is doing very well in managing credit risk to develop sound financial performance and financial sustainability and at the same time expanding their outreach. However BAAC failed in depth of outreach implying that it is not reaching truly poor farmers and government secured loans are not effective tools to reach truly poor farmers but rather better off farmers as they were not tailored well enough to suit them.

In addition, there also was evidence that a number of government secured loan projects were benefitting only to concentrated groups of interests. Moral Hazard in farmer's associations group of clients resulted in fluctuating repayment performance but they are considered poorer than individual farmers and not well managed therefore are seen as unprofitable group of client meaning that they are obviously minority group of clients.

Chapter V

Discussion and Conclusion

5.1 Discussion of major findings

Major findings are strongly related to hypothesis stated in chapter 1, therefore I shall examine these hypotheses whether each one holds true or not with further descriptive explanations.

1) Outreach and financial performance in contribution to long term sustainability are complimentary to each other as goals to microfinance institutions therefore can be developed concurrently

This holds true in case of breadth of outreach but on the contrary fault in terms of depth of outreach. However, these two goals in the triangle of microfinance can be achieved together if BAAC can manage well all types of risks especially credit risks. BAAC has to work on tailoring demand oriented products to better suit the marginal group of farmers. BAAC has to face obstacles in seasonal crops and farming, natural calamities and migrants into big cities as other factors beyond credit risks. Moreover, risks which are not able to be avoided are political intervention risks by populist parties. There is evidence on this is represented by the amount of money BAAC is owing to public institutions as creditors for purpose of government-oriented policy projects 2004-2010. In figure 24 we can we the trend from 2004-2007 that BAAC is less prone to political intervention risks as BAAC owed less and less to public institution creditors even though there was an election in 2006 and 2007. However there was a coup de ta and turmoil during those 2 years therefore political parties did not pay attention and did not have time to build up interests in populist ways. On the other hand, when the former prime minister was sent in exile and certain political party has to build up their popularity among farmers who

are majority of population we can see the sharp trend in rising amount BAAC owing to public institutions. It is obvious that from 2008 to 2009 there is a sharp rise of BAAC implementation of government policy oriented projects and leading towards election in 2011 the amount almost doubled from 2009-2010. Also other contributing factors affecting this rise can be natural calamities and draught in 2009.

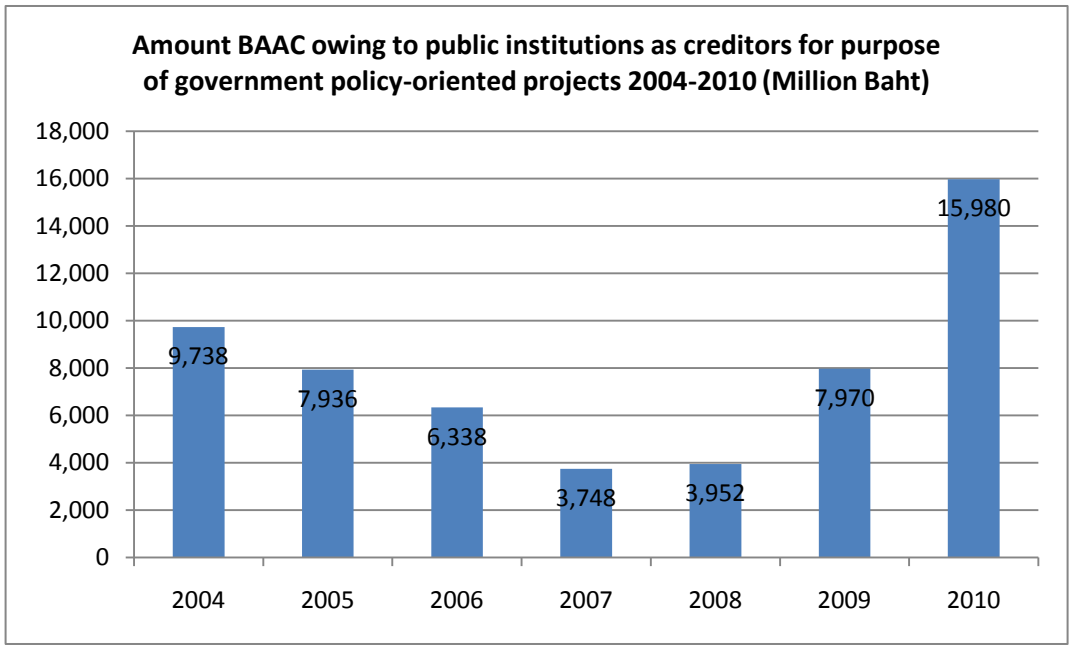


Figure 24: Amount BAAC owing to public institutions as creditors for purpose of government policy-oriented projects 2004-2010 (million Baht)

2) BAAC as state-owned enterprise, even with intervention by government policies can expand in terms of outreach and improve financial sustainability operating in profitable manner as well as BAAC is not behaving with moral hazards reducing efficiency in operation and staff in screening, monitoring and managing quality of loan portfolio

BAAC being a state-owned enterprise faced major restructuring in terms of source of funds towards financial sustainability with profitable result financial performance. There are many public

government institutions that support BAAC in terms of fund extension however BAAC manages to pay back in a sound manner when clients pay back the loan. Attempt in trying to extend more loans to marginal group of farmers and support in times of natural crisis and seasonal risks involved in agricultural lending showed that BAAC is not pursuing **"Paradigm shift" or "mission drift"** towards sound financial performance only which is global issue for microfinance institutions around the world. However, needless to say that BAAC is focusing on economic viability and sustainability as well as outreach of financial services concurrently and it has been doing a great job. Moreover, BAAC has managed to resist the pressure exerted by political interest groups as well as interference from local government in regards to borrower selection and lending decisions. BAAC was mostly affected by the government direct debt suspension programs initiated by populist governments a number of times however with guarantee by government BAAC has managed to remain profitable. In addition, data is limited on calculation of efficiency indicators however the one that was interpreted as personnel expenses in proportion to total income percentage. BAAC is also managing very well in this aspect as number of branches continues to increase but BAAC can maintain personnel expenses percentage in consistency and at appropriate level.

3) Government policies implementing through BAAC are seasonal, temporary and concentrated to middle range farmers and not truly benefiting marginal farmers.

Depth of outreach which measures and indicates poverty of BAAC clientele indicated that loans under government-secured lending programs do not reach the poor farmers for who they were designed, but rather the better off and more informed farmers who know the officers of the Agricultural Extension Service, subsidized loans are not tailored to the needs of poor farmers and most government secured or subsidized loans create moral hazard or unwillingness to repay the loan. This hypothesis holds true.

5.2 Conclusion

This report aims to measure performance of Bank of Agricultural and Agricultural Cooperatives (BAAC) as it is a state-owned enterprise operating in microfinance serving majority of this market. Measurement of performance is based on conceptual framework of "Critical triangle of microfinance" by [Zeller Meyer, 2002]. There are 3 main aspects which are outreach, financial sustainability and impact. It is very complicated and requires panel data gathering which takes time in measuring impact and there have been a lot of literatures and studies on that already therefore I chose to focus on outreach and financial sustainability measurement and assessment. Secondary data from annual reports is the main information applying tools of indicators and method of interpretation mainly provided by UNDP and MIX Co-operations and books. As far as data is available I interpreted various outreach indicators in 2 aspects of depth and breadth, financial performance and efficiency were sub set indicators towards financial sustainability and financial sustainability indicators itself were examined. Results founded that "breadth of outreach" indicators have **complimentary relationship** with financial performance and ultimately financial sustainability. However if we look into more details of sub-category of loan outstanding balance by type of clients, it is found that Agricultural Cooperatives' results are stagnant, farmers' associations' results are fluctuating and decreasing as well as government secured loan projects. On the other hand, relationship between depth of outreach and financial performance and ultimately financial sustainability is a **trade-off relationship**. This is contribution of Thailand's case in the existing debate of relationship between outreach and sustainability as goals which are equally important in critical microfinance triangle conceptual framework.

In conclusion, there are two types of results but BAAC is doing very well in managing credit risk to develop sound financial performance and financial sustainability and at the same time expanding the outreach. However BAAC failed in depth of outreach implying that it is not reaching truly poor

farmers and government secured loans are not effective tools to reach truly poor farmers but rather better off farmers as they were not tailored well enough to suit them.

In addition, there also was evidence that a number of government secured loan projects were benefitting only to concentrated groups of interests. Moral Hazard in farmer's associations group of clients resulted in fluctuating repayment performance but they are considered poorer than individual farmers and not well managed therefore are seen as unprofitable group of client meaning that they are obviously minority group of clients. BAAC has to work hard to future outreach of marginal farmers not the better off ones and in expansion of depth of outreach concentration and less in breadth of outreach aspect. It is evident that BAAC is not on the edge of paradigm shift or mission drift which is a positive sign.

For future development of BAAC, depth of outreach can be expanded to be more demand oriented products which should be better designed and tailored towards the marginal group of farmers or clients. For example, insurance products, more practice on joint liability groups lending and cash flow-based lending which is a new credit delivery system for small borrowers which BAAC has already implemented recently but know how on making it effective is on process of gaining expertise and experience.

References

Annual reports of BAAC, Various issues

Annim, K, S., (2010), “Microfinance Trade-offs and complementarities”, BWPI Working Paper 127, Brooks World Poverty Institute, University of Manchester

Anuchitworawong. (2007). Credit Access and Poverty Reduction. TDRI Quarterly Review Volumn 22 No.4, (P.15-21)

Bogan, V., (2009) “Capital Structure and Sustainability: An Empirical Study of Microfinance Institutions”, Cornell University.

Christen, R. P., (2001), "Commercialization and mission drift: The transformation of microfinance in Latin America", Occasional paper No.5, Washington DC:CGAP

Chatterjee, P., Sarangi, S., (2006), "The Economics of Microfinance" Book Review, Southern Economic Journal, Vol.73, No., 1, (P.259-264)

Cull, Robert., Demirguc-Kunt, Asli., Morduch, Jonathan (2006), "Financial Performance and Outreach: A Global Analysis of Leading Microbanks" ,World Bank Policy Research Working Paper

Fitchett, D.,(1999), "A case study on Bank for Agriculture and Agricultural Cooperatives, Thailand", CGAP Working Group on Savings Mobilization

Focus (1996), "Financial sustainability, Targeting the poorest and Income impact: Are there trade-

offs for microfinance institutions?", No.5, Consultative Group to Assist the Poorest (CGAP)

Gaul, Scott, et. al. (2008). MIX Asia 100 Ranking of microfinance institutions. Mundaluyong, Phillipines: Asian Development Bank.

Haberberger Luise Marie. (2005). Creating an Enabling Environment for Microfinance - the Role of Governments: Experiences from Thailand. High Level Policy Conference on Microfinance in India (P. 1-17), German Technical Cooperation (GTZ)

Hermes, Niels., Lensink, Robert., Meesters, Aljar (2007), "Outreach and Efficiency of Microfinance Institutions"

Hulme, D., Mosley, P. (1996) "Finance against poverty", Vollume 1 and 2, London: Routledge

Johnson R., Rogally B. (2002), Microfinance and poverty reduction, Oxfam Development Guidelines, published by Oxfam and ActionAid

Kereta, B. B., (2007), "Outreach and Financial Performance Analysis of Microfinance institutions in Ethiopia", Economic Research and Monetary Policy, National Bank of Ethiopia

Khandler, Shahidur R., (1998), "Fighting Poverty with Microcredit: Experience in Bangladesh, New York, Oxford University Press

Lepanu, C., Zeller M. (2002), "Distribution, growth, performance of the microfinance institutions in Africa, Asia and Latin America: A recent inventory": Savings and Development (P. 87-111)

Makame, A.H., and Murande, V. (2006), "Empirical findings on cognitive dissonance around microfinance outreach and sustainability", unpublished paper, Birmingham: University of Birmingham

MaIntosh, A., De Janvry, Sadoulet, E., "How competition among microfinance institutions affects incumbent lenders", Economic Journal, Volumn 115 (P. 987-1004)

Meyer, Richard L.;. (2002). Track Record of Financial Institutions in Assisting the poor in Asia. Tokyo: Asian Development Bank Institute Research Paper Series No. 49

Microbanking Bulletin (1998), issue No.2, Economics Institute, Boulder, Colorado

MIXMarket, www.mixmarket.org, visited July 2011

MIX Microbanking Bulletin, Trend Lines 2005-2007 MFI Benchmarks

Navajas, S., Conning, J., Gonzales-Vega, C. (2003), "Lending technologies, competition and consolidation in the market for microfinance in Bolivia", Journal of International Development (P. 747-770)

Olivares-Polanco, F., (2005), "Commercializing microfinance and deepening outreach? Empirical evidence from latin America", Journal of microfinance(P. 47-69)

Paxton, J., Cuevas, C., (2002), "Outreach and sustainability of member-based rural financial intermediaries" , Baltimore and London: John Hopkins University Press

Rhyne, E., (1998), "The yin and yang of microfinance: Reaching the poor and financial sustainability", Microfinance Bulletin, (P. 1-17)

Siamwalla Ammer. (1993). Rural Credit and Rural Poverty: . Hong Kong: Oxford University Press.

Stiglitz Weiss. (1981). Credit Rationing in Markets with Imperfect information. American Economic Review Volumn 71 Number 3, (P.393-410)

United Nations Development Program (UNDP), (2003) "Core Performance Indicators for Microfinance"

Von Pischke, J D. (1991). Finance at the Fronier. Washington D.C.: Economic Development Institute, World Bank

Wisniwski, S., (1998),"Savings in the context of microfinance: lessons learned from six deposit taking institutions", Inter-American Forum on Microenterprise, GTZ

Woller G, Schreiner M. (2004). Measuring Outreach Conceptual. Micropaper No.3 (P.1-14). USAID

Yaron, J., (1992), "Assessing Development Finance Institutions: A Public Interest Analysis", World Bank Discussion Paper 174, Washington D.C.

Yaron, J., McDonald, B., Piprek, J., (1997), " Rural Finance: Issues, Design and Best Practices", Second edition, Washington D.C.

Zeller Manfred, Meyer L. Richard. (2002). The Triangle of Microfinance: Financial Sustainability, Outreach, and Impact. International Food Policy Research Institute